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* * * * * * * * * * * Welcome to STN International * * * * * * * * * * *

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NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 SEP 09 CA/Cplus records now contain indexing from 1907 to the present
NEWS 4 DEC 08 INPADOC: Legal Status data reloaded
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NEWS 6 OCT 10 PCTFULL: Two new display fields added
NEWS 7 OCT 21 BIOSIS file reloaded and enhanced
NEWS 8 OCT 28 BIOSIS file segment of TOXCENTER reloaded and enhanced
NEWS 9 NOV 24 MSDS-CCOHS file reloaded
NEWS 10 DEC 08 CABA reloaded with left truncation
NEWS 11 DEC 08 IMS file names changed
NEWS 12 DEC 09 Experimental property data collected by CAS now available in REGISTRY
NEWS 13 DEC 09 STN Entry Date available for display in REGISTRY and CA/Cplus
NEWS 14 DEC 17 DGENE: Two new display fields added
NEWS 15 DEC 18 BIOTECHNO no longer updated
NEWS 16 DEC 19 CROPU no longer updated; subscriber discount no longer available
NEWS 17 DEC 22 Additional INPI reactions and pre-1907 documents added to CAS databases
NEWS 18 DEC 22 IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields
NEWS 19 DEC 22 ABI-INFORM now available on STN
NEWS 20 JAN 27 Source of Registration (SR) information in REGISTRY updated and searchable
NEWS 21 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/Cplus
NEWS 22 FEB 05 German (DE) application and patent publication number format changes

NEWS EXPRESS DECEMBER 28 CURRENT WINDOWS VERSION IS V7.00, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
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STRUCTURE FILE UPDATES: 29 FEB 2004 HIGHEST RN 656221-41-9
DICTIONARY FILE UPDATES: 29 FEB 2004 HIGHEST RN 656221-41-9

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

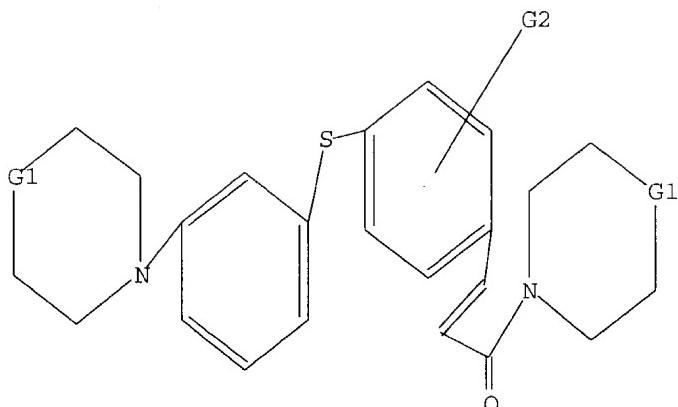
Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>
Uploading c:\program files\stnexp\queries\09541795.11

L1 STRUCTURE UPLOADED

=> d 11
L1 HAS NO ANSWERS
L1 STR



G1 C,O,S,N,NH,CH₂,CH

G2 CF₃,X

Structure attributes must be viewed using STN Express query preparation.

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=> S 11 SSS full
FULL SEARCH INITIATED 16:18:22 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -      37 TO ITERATE

100.0% PROCESSED      37 ITERATIONS          28 ANSWERS
SEARCH TIME: 00.00.01
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L2 28 SEA SSS FUL L1

| | | | |
|----------------------|--|------------|---------|
| => file caplus | | SINCE FILE | TOTAL |
| COST IN U.S. DOLLARS | | ENTRY | SESSION |
| FULL ESTIMATED COST | | 155.42 | 155.63 |

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FILE 'CAPLUS' ENTERED AT 16:18:30 ON 01 MAR 2004
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FILE COVERS 1907 - 1 Mar 2004 VOL 140 ISS 10
FILE LAST UPDATED: 29 Feb 2004 (20040229/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> S 12
 L3 2 L2

=> d 13 fbib hitstr abs total

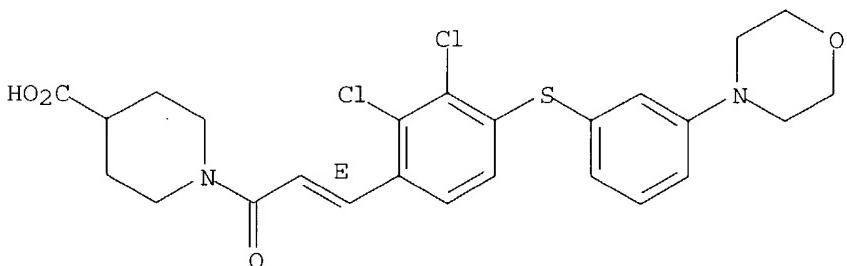
L3 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:725609 CAPLUS
 DN 133:296281
 TI Preparation of 2- or 4-(phenylthio)cinnamides as cell adhesion-inhibiting antiinflammatory and immune-suppressive compounds
 IN Link, James; Liu, Gang; Pei, Zhonghua; Von Geldern, Thomas W.; Winn, Martin; Xin, Zhili; Wang, Sheldon; Boyd, Steven A.; Zhu, Gui-Dong; Freeman, Jennifer C.; Gunawardana, Indrani W.; Staeger, Michael A.; Jae, Hwan-soo; Lynch, John K.
 PA Abbott Laboratories, USA
 SO PCT Int. Appl., 476 pp.
 CODEN: PIXXD2
 DT Patent
 LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|---|--|-------------|
| PI | WO 2000059880 | A1 | 20001012 | WO 2000-US8895 | 20000403 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,
CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,
SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | US 1999-286645 A 19990402
US 1999-474517 A 19991229
US 2000-541795 A 20000331 | | |
| | EP 1165505 | A1 | 20020102 | EP 2000-921654 | 20000403 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO | | | US 1999-286645 A 19990402
US 1999-474517 A 19991229 | <i>s BP</i> |
| | BR 2000009426 | A | 20020409 | WO 2000-US8895 W 20000403 | |
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| | | | | US 1999-286645 A 19990402 | |
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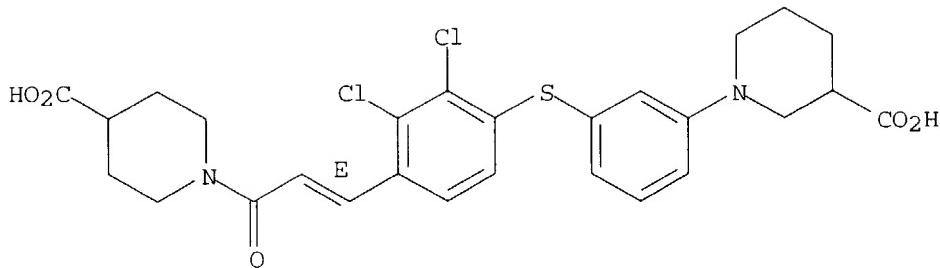
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| ZA 2001008944 | A | 20030702 | ZA 2001-8944 20011030 |
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| OS | MARPAT 133:296281 | | |
| IT | 280752-45-6P 301179-05-5P 301179-08-8P
301179-10-2P 301179-11-3P 301179-14-6P
301179-21-5P 301179-23-7P 301179-24-8P
301179-25-9P 301179-26-0P 301179-29-3P
301179-30-6P 301179-31-7P 301179-36-2P
301179-37-3P 301179-38-4P 301179-39-5P
301179-40-8P 301179-41-9P 301179-42-0P
301179-43-1P 301179-48-6P 301179-49-7P
301179-59-9P 301179-60-2P | | |
| | RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) | | |
| | (preparation of (phenylthio)cinnamides as cell adhesion inhibitors by coupling of thiophenols with halobenzaldehydes, conversion to cinnamic acids, amidation, and optional derivatization) | | |
| RN | 280752-45-6 CAPLUS | | |
| CN | 4-Piperidinecarboxylic acid, 1-[(2E)-3-[2,3-dichloro-4-[(3-(4-morpholinyl)phenyl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME) | | |

Double bond geometry as shown.



| | |
|----|--|
| RN | 301179-05-5 CAPLUS |
| CN | 3-Piperidinecarboxylic acid, 1-[[3-[(4-[(1E)-3-((4-carboxy-1-piperidinyl)-3-oxo-1-propenyl)-2,3-dichlorophenyl]thio)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME) |

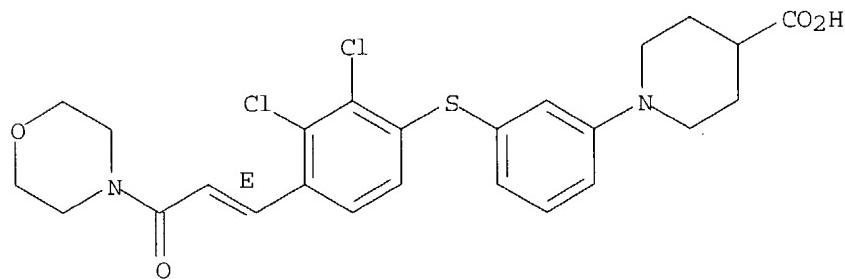
Double bond geometry as shown.



RN 301179-08-8 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-(4-morpholinyl)-3-oxo-1-propenyl]phenyl]thio]phenyl]- (9CI) (CA INDEX NAME)

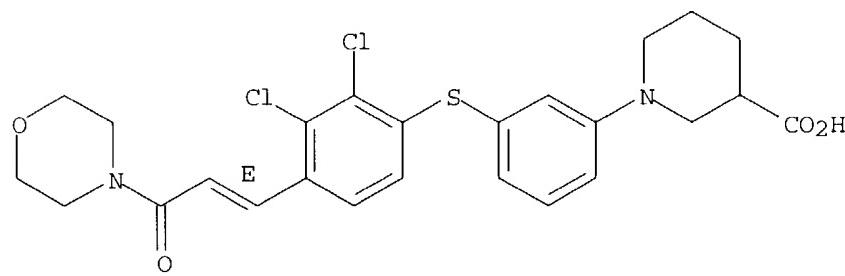
Double bond geometry as shown.



RN 301179-10-2 CAPLUS

CN 3-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-(4-morpholinyl)-3-oxo-1-propenyl]phenyl]thio]phenyl]- (9CI) (CA INDEX NAME)

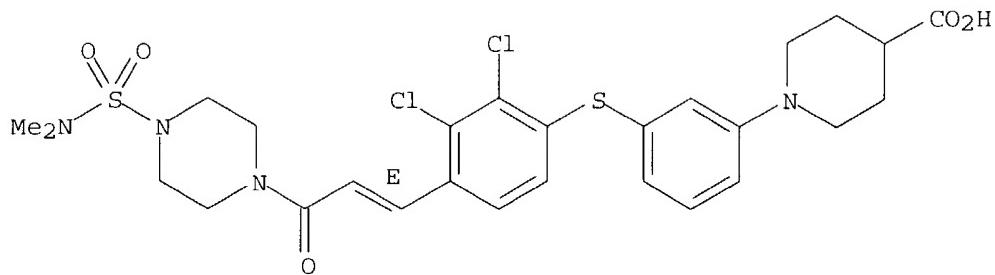
Double bond geometry as shown.



RN 301179-11-3 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-[4-(dimethylamino)sulfonyl]-1-piperazinyl]-3-oxo-1-propenyl]phenyl]thio]phenyl]- (9CI) (CA INDEX NAME)

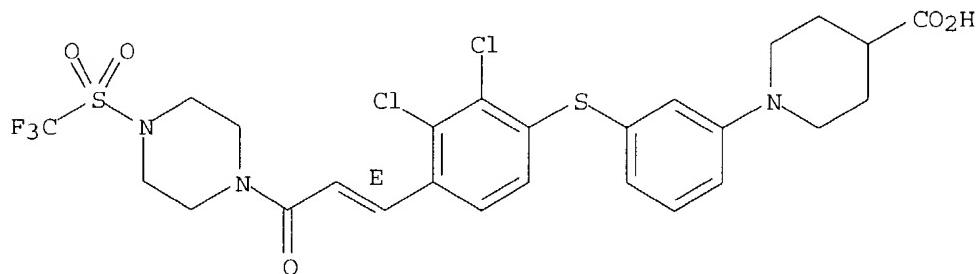
Double bond geometry as shown.



RN 301179-14-6 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-oxo-3-[4-[(trifluoromethyl)sulfonyl]-1-piperazinyl]-1-propenyl]phenyl]thio]phenyl]-(9CI) (CA INDEX NAME)

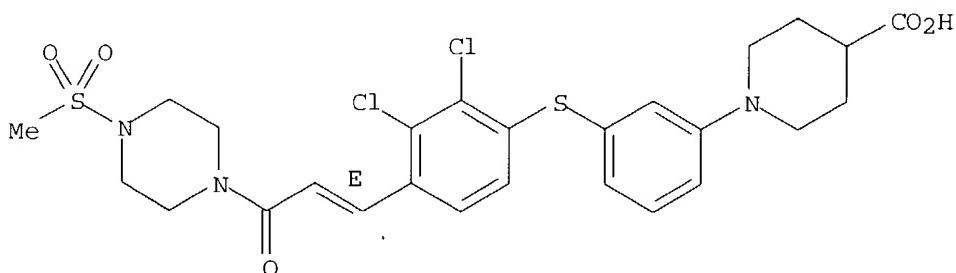
Double bond geometry as shown.



RN 301179-21-5 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-[4-(methylsulfonyl)-1-piperazinyl]-3-oxo-1-propenyl]phenyl]thio]phenyl]-(9CI) (CA INDEX NAME)

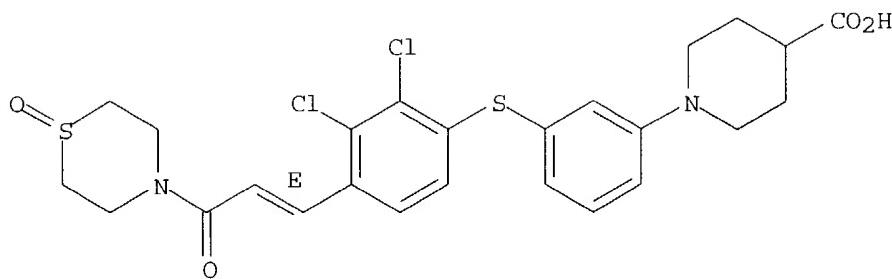
Double bond geometry as shown.



RN 301179-23-7 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-(1-oxido-4-thiomorpholinyl)-3-oxo-1-propenyl]phenyl]thio]phenyl]-(9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 301179-24-8 CAPLUS

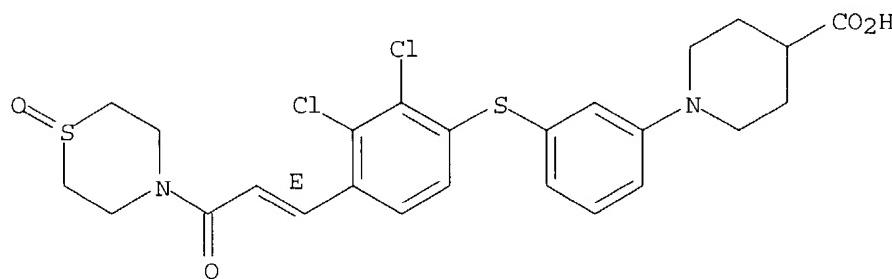
CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-(1-oxido-4-thiomorpholinyl)-3-oxo-1-propenyl]phenyl]thiolphenyl]-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 301179-23-7

CMF C25 H26 Cl2 N2 O4 S2

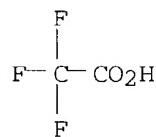
Double bond geometry as shown.



CM 2

CRN 76-05-1

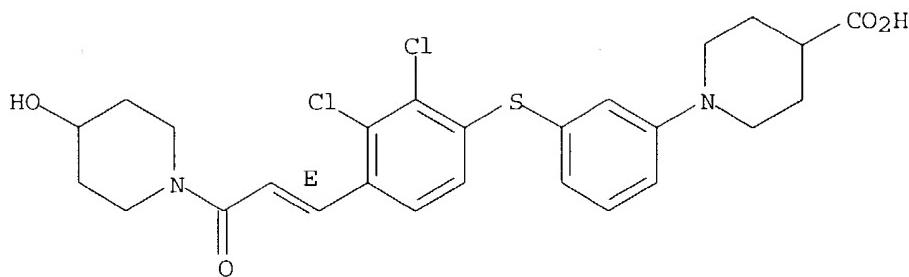
CMF C2 H F3 O2



RN 301179-25-9 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-(4-hydroxy-1-piperidinyl)-3-oxo-1-propenyl]phenyl]thiolphenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 301179-26-0 CAPLUS

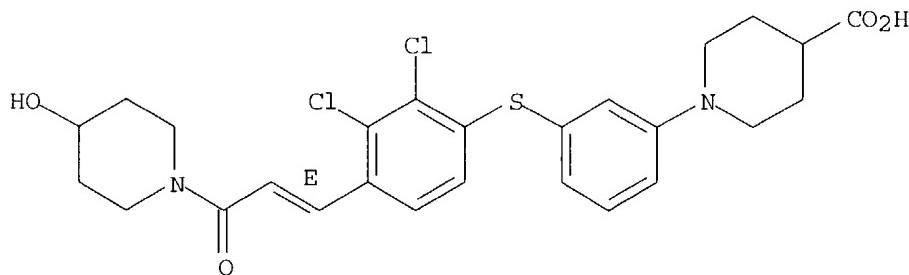
CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-(4-hydroxy-1-piperidinyl)-3-oxo-1-propenyl]phenyl]thio]phenyl]-, trifluoroacetate (4:1) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 301179-25-9

CMF C26 H28 Cl2 N2 O4 S

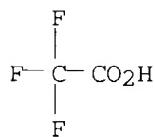
Double bond geometry as shown.



CM 2

CRN 76-05-1

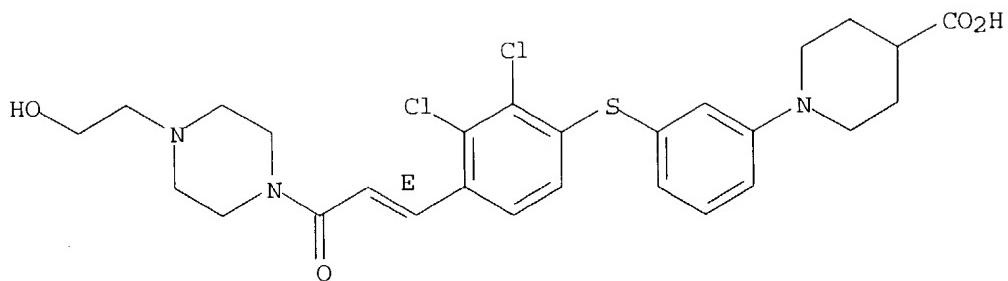
CMF C2 H F3 O2



RN 301179-29-3 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-[4-(2-hydroxyethyl)-1-piperazinyl]-3-oxo-1-propenyl]phenyl]thio]phenyl]- (9CI) (CA INDEX NAME)

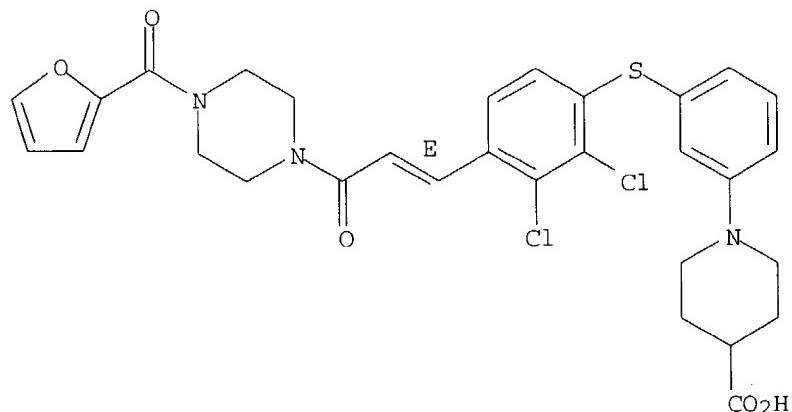
Double bond geometry as shown.



RN 301179-30-6 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-[4-(2-furanylcarbonyl)-1-piperazinyl]-3-oxo-1-propenyl]phenyl]thiophenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 301179-31-7 CAPLUS

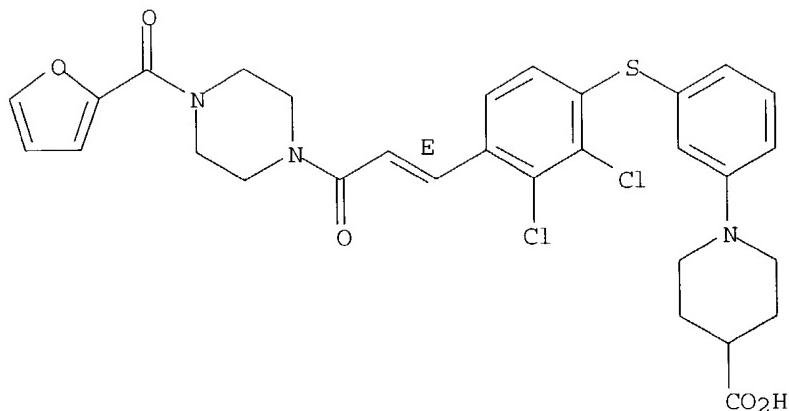
CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-[4-(2-furanylcarbonyl)-1-piperazinyl]-3-oxo-1-propenyl]phenyl]thiophenyl]-, trifluoroacetate (2:3) (9CI) (CA INDEX NAME)

CM 1

CRN 301179-30-6

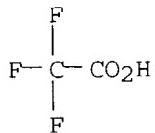
CMF C₃₀ H₂₉ Cl₂ N₃ O₅ S

Double bond geometry as shown.



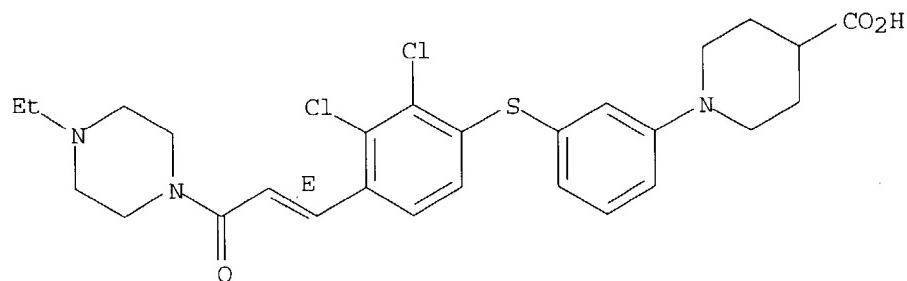
CM 2

CRN 76-05-1
 CMF C₂ H F₃ O₂



RN 301179-36-2 CAPLUS
 CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-(4-ethyl-1-piperazinyl)-3-oxo-1-propenyl]phenyl]thio]phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

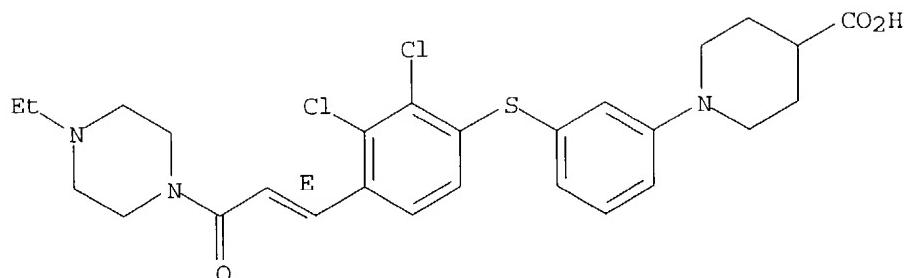


RN 301179-37-3 CAPLUS
 CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-(4-ethyl-1-piperazinyl)-3-oxo-1-propenyl]phenyl]thio]phenyl]-, trifluoroacetate (5:11) (9CI) (CA INDEX NAME)

CM 1

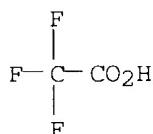
CRN 301179-36-2
 CMF C₂₇ H₃₁ Cl₂ N₃ O₃ S

Double bond geometry as shown.



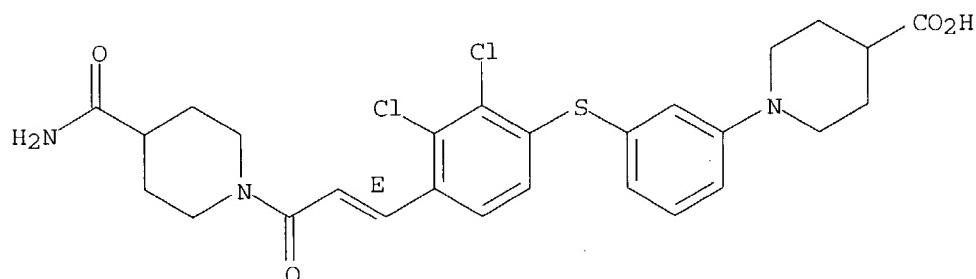
CM 2

CRN 76-05-1
CMF C2 H F3 O2



RN 301179-38-4 CAPLUS
CN 4-Piperidinecarboxylic acid, 1-[3-[(1E)-3-[4-(aminocarbonyl)-1-piperidinyl]-3-oxo-1-propenyl]-2,3-dichlorophenyl]thiophenyl] - (9CI) (CA INDEX NAME)

Double bond geometry as shown.

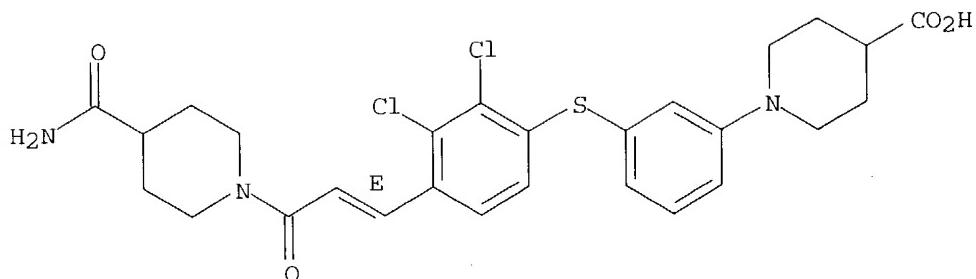


RN 301179-39-5 CAPLUS
CN 4-Piperidinecarboxylic acid, 1-[3-[(1E)-3-[4-(aminocarbonyl)-1-piperidinyl]-3-oxo-1-propenyl]-2,3-dichlorophenyl]thiophenyl] -, trifluoroacetate (5:1) (9CI) (CA INDEX NAME)

CM 1

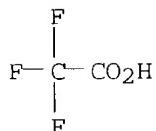
CRN 301179-38-4
CMF C27 H29 Cl2 N3 O4 S

Double bond geometry as shown.



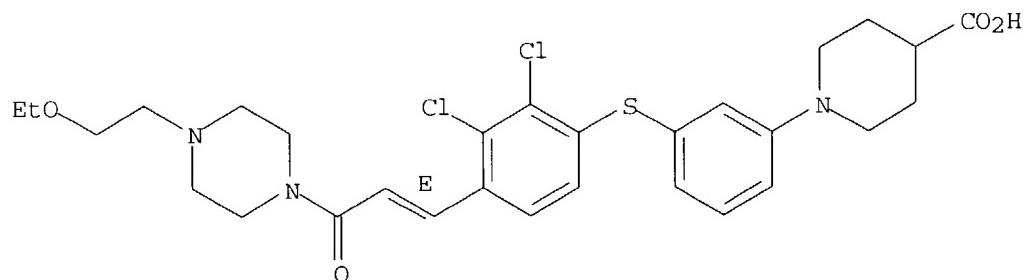
CM 2

CRN 76-05-1
CMF C2 H F3 O2



RN 301179-40-8 CAPLUS
CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-[4-(2-ethoxyethyl)-1-piperazinyl]-3-oxo-1-propenyl]phenyl]thio]phenyl] - (9CI)
(CA INDEX NAME)

Double bond geometry as shown.

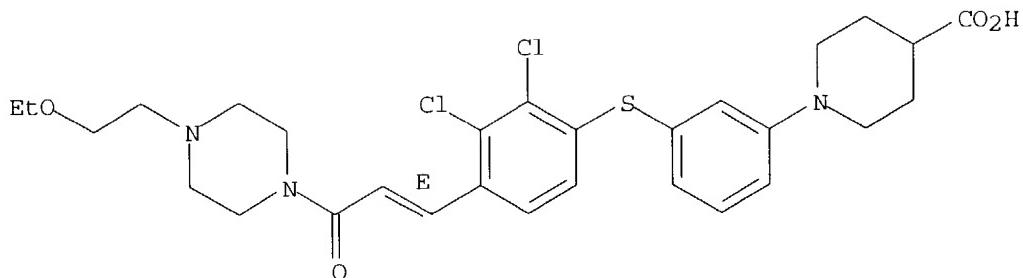


RN 301179-41-9 CAPLUS
CN 4-Piperidinecarboxylic acid, 1-[3-[[2,3-dichloro-4-[(1E)-3-[4-(2-ethoxyethyl)-1-piperazinyl]-3-oxo-1-propenyl]phenyl]thio]phenyl] -, trifluoroacetate (2:5) (9CI) (CA INDEX NAME)

CM 1

CRN 301179-40-8
CMF C29 H35 Cl2 N3 O4 S

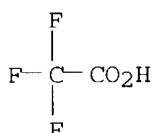
Double bond geometry as shown.



CM 2

CRN 76-05-1

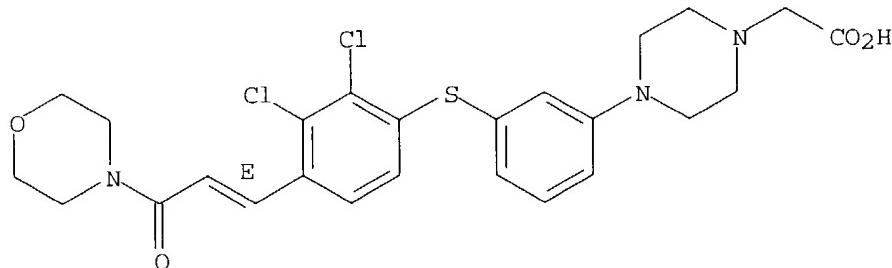
CMF C2 H F3 O2



RN 301179-42-0 CAPLUS

CN 1-Piperazineacetic acid, 4-[3-[[2,3-dichloro-4-[(1E)-3-(4-morpholinyl)-3-oxo-1-propenyl]phenyl]thio]phenyl]- (9CI) (CA INDEX NAME)

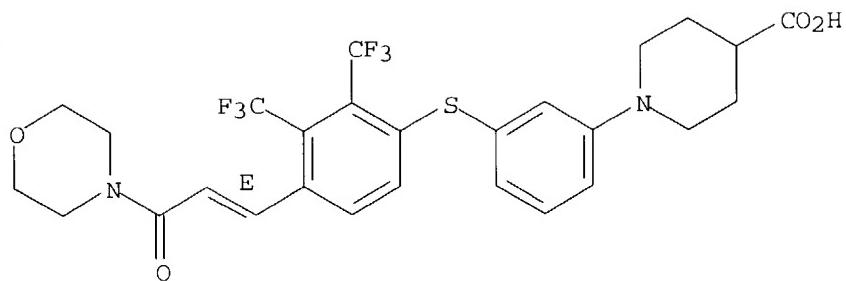
Double bond geometry as shown.



RN 301179-43-1 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[[4-[(1E)-3-(4-morpholinyl)-3-oxo-1-propenyl]-2,3-bis(trifluoromethyl)phenyl]thio]phenyl]- (9CI) (CA INDEX NAME)

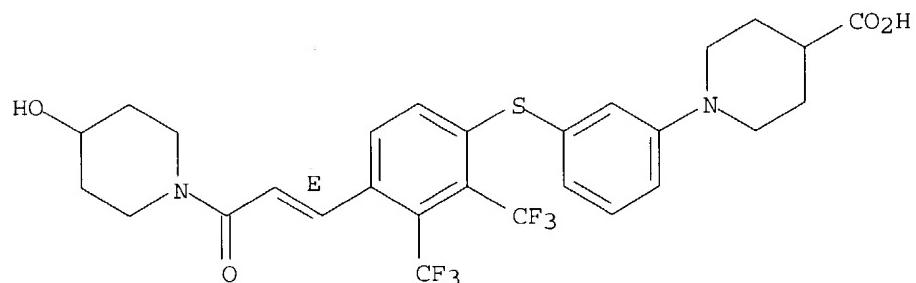
Double bond geometry as shown.



RN 301179-48-6 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[(1E)-3-(4-hydroxy-1-piperidinyl)-3-oxo-1-propenyl]-2,3-bis(trifluoromethyl)phenyl]thiophenyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 301179-49-7 CAPLUS

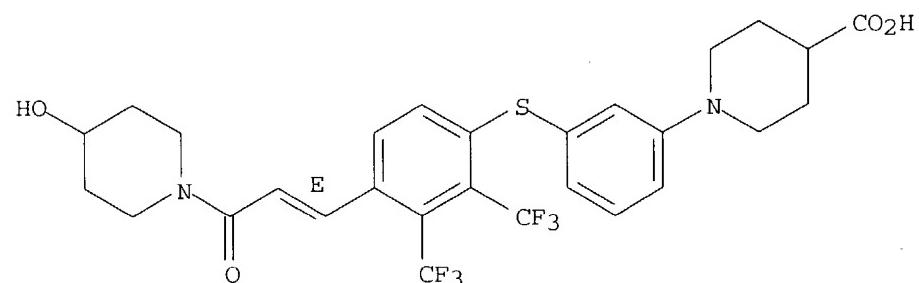
CN 4-Piperidinecarboxylic acid, 1-[3-[(1E)-3-(4-hydroxy-1-piperidinyl)-3-oxo-1-propenyl]-2,3-bis(trifluoromethyl)phenyl]thiophenyl-, trifluoroacetate (20:23) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 301179-48-6

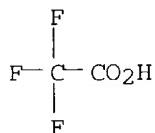
CMF C28 H28 F6 N2 O4 S

Double bond geometry as shown.



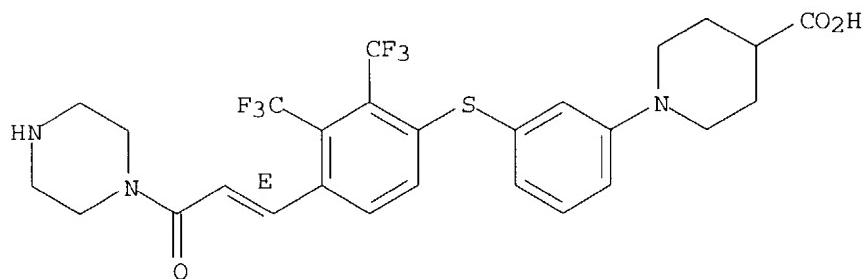
CM 2

CRN 76-05-1
 CMF C2 H F3 O2



RN 301179-59-9 CAPLUS
 CN 4-Piperidinecarboxylic acid, 1-[3-[(4-[(1E)-3-oxo-3-(1-piperazinyl)-1-propenyl]-2,3-bis(trifluoromethyl)phenyl]thio]phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

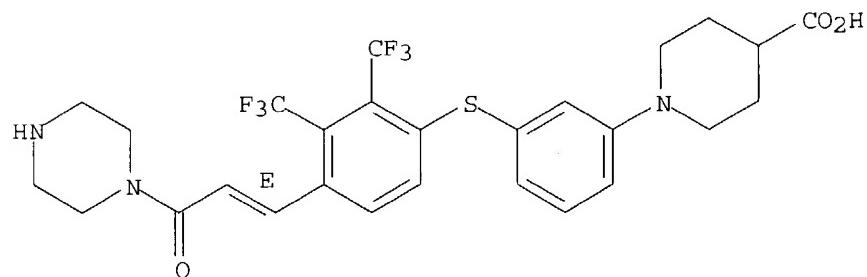


RN 301179-60-2 CAPLUS
 CN 4-Piperidinecarboxylic acid, 1-[3-[(4-[(1E)-3-oxo-3-(1-piperazinyl)-1-propenyl]-2,3-bis(trifluoromethyl)phenyl]thio]phenyl]-, trifluoroacetate (10:33) (9CI) (CA INDEX NAME)

CM 1

CRN 301179-59-9
 CMF C27 H27 F6 N3 O3 S

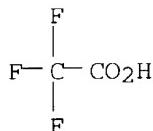
Double bond geometry as shown.



CM 2

CRN 76-05-1

CMF C2 H F3 O2



IT 280753-31-3P 301180-00-7P

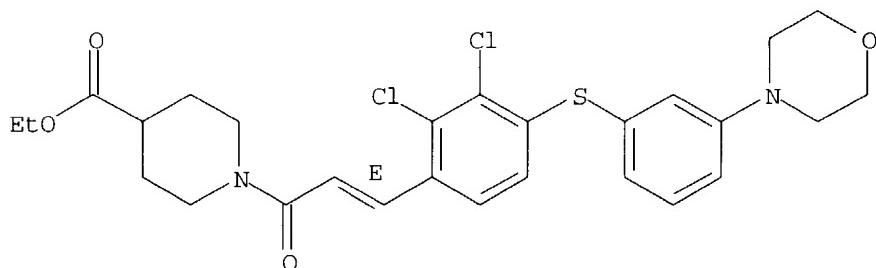
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of (phenylthio)cinnamides as cell adhesion inhibitors by coupling of thiophenols with halobenzaldehydes, conversion to cinnamic acids, amidation, and optional derivatization)

RN 280753-31-3 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[2,3-dichloro-4-[(3-(4-morpholinyl)phenyl)thio]phenyl]-1-oxo-2-propenyl]-, ethyl ester (9CI) (CA INDEX NAME)

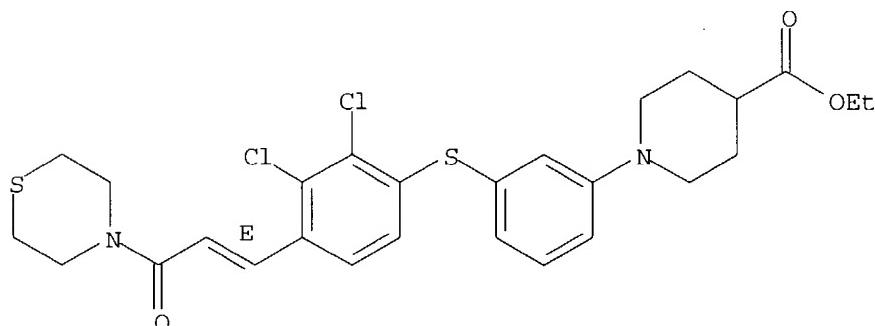
Double bond geometry as shown.



RN 301180-00-7 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[(2,3-dichloro-4-[(1E)-3-oxo-3-(4-thiomorpholinyl)-1-propenyl]phenyl)thio]phenyl]-, ethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



GI

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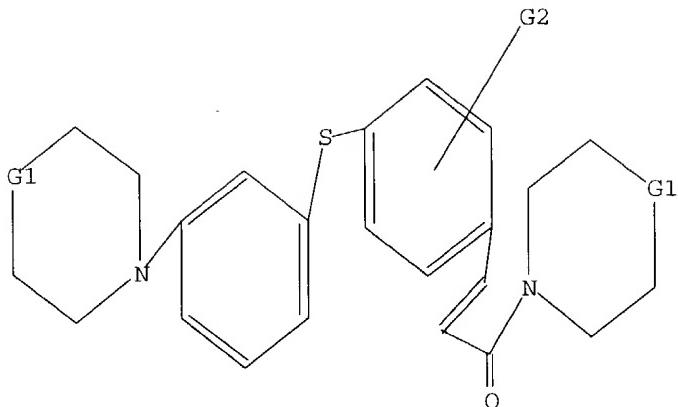
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=>
Uploading c:\program files\stnexp\queries\09541795.11

L1 STRUCTURE UPLOADED

=> d 11
L1 HAS NO ANSWERS
L1 STR

G1 C,O,S,N,NH,CH₂,CHG2 CF₃,X

Structure attributes must be viewed using STN Express query preparation.

```
=> s 11 sss full
FULL SEARCH INITIATED 16:18:22 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -      37 TO ITERATE
100.0% PROCESSED      37 ITERATIONS          28 ANSWERS
SEARCH TIME: 00.00.01
```

L2 28 SEA SSS FUL L1

| | | | |
|----------------------|--|------------|---------|
| => file caplus | | SINCE FILE | TOTAL |
| COST IN U.S. DOLLARS | | ENTRY | SESSION |
| FULL ESTIMATED COST | | 155.42 | 155.63 |

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NEWS 15 DEC 18 BIOTECHNO no longer updated
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=> file reg
COST IN U.S. DOLLARS

FULL ESTIMATED COST

| SINCE FILE
ENTRY | TOTAL
SESSION |
|---------------------|------------------|
| 0.21 | 0.21 |

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L1 STRUCTURE UPLOADED

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=> d 11
L1 HAS NO ANSWERS
L1                      STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
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Structure attributes must be viewed using STN Express query preparation.

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=> s 11 sss full
FULL SEARCH INITIATED 16:42:43 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -      441 TO ITERATE
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100.0% PROCESSED 441 ITERATIONS 106 ANSWERS
SEARCH TIME: 00.00.01

L2 106 SEA SSS FUL IJ

=> file caplus

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST | 155.42 | 155.63 |

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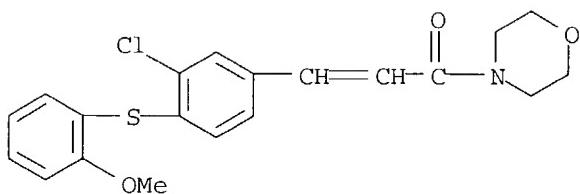
FILE COVERS 1907 - 1 Mar 2004 VOL 140 ISS 10
 FILE LAST UPDATED: 29 Feb 2004 (20040229/ED)

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L3      4 L2
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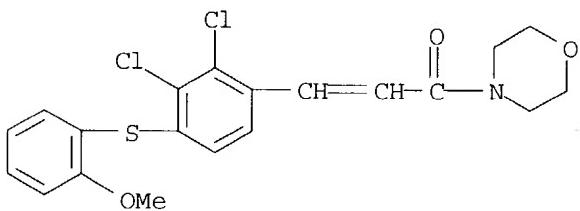
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L3 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2003:235035 CAPLUS
 DN 139:285618
 TI QSAR Study on Some p-Arylthio Cinnamides as Antagonists of Biochemical ICAM-1/LFA-1 Interaction and ICAM-1/JY-8 Cell Adhesion in Relation to Anti-inflammatory Activity
 AU Debnath, Bikash; Samanta, Soma; Roy, Kunal; Jha, Tarun
 CS Department of Pharmaceutical Technology, Division of Pharmaceutical and Medicinal Chemistry, Jadavpur University, Kolkata, 700 032, India
 SO Bioorganic & Medicinal Chemistry (2003), 11(8), 1615-1619
 CODEN: BMECEP; ISSN: 0968-0896
 PB Elsevier Science Ltd.
 DT Journal
 LA English
 IT 609841-80-7 609841-90-9 609841-91-0
 609841-95-4 609841-96-5 609841-97-6
 609842-01-5 609842-02-6 609842-03-7
 RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (QSAR study on arylthio cinnamides as antagonists of biochem.
 ICAM-1/LFA-1 interaction and ICAM-1/JY-8 cell adhesion)
 RN 609841-80-7 CAPLUS
 CN Morpholine, 4-[3-[3-chloro-4-[(2-methoxyphenyl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



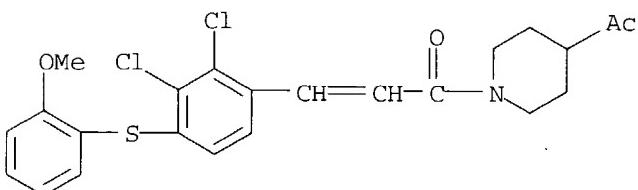
RN 609841-90-9 CAPLUS

CN Morpholine, 4-[3-[2,3-dichloro-4-[(2-methoxyphenyl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



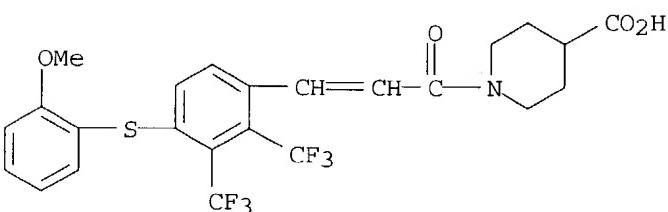
RN 609841-91-0 CAPLUS

CN Piperidine, 4-acetyl-1-[3-[2,3-dichloro-4-[(2-methoxyphenyl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



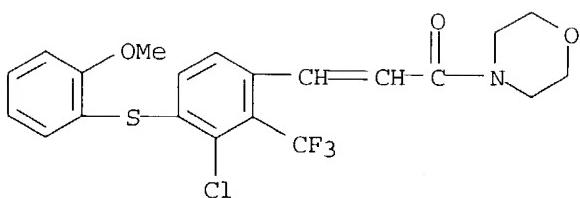
RN 609841-95-4 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[4-[(2-methoxyphenyl)thio]-2,3-bis(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



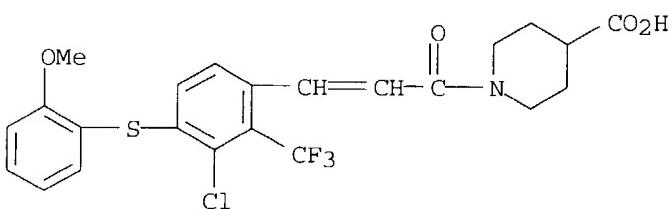
RN 609841-96-5 CAPLUS

CN Morpholine, 4-[3-[3-chloro-4-[(2-methoxyphenyl)thio]phenyl]-2-(trifluoromethyl)-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



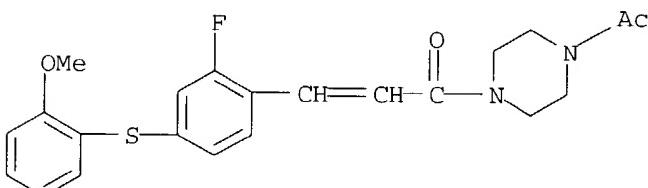
RN 609841-97-6 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[3-chloro-4-[(2-methoxyphenyl)thio]-2-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



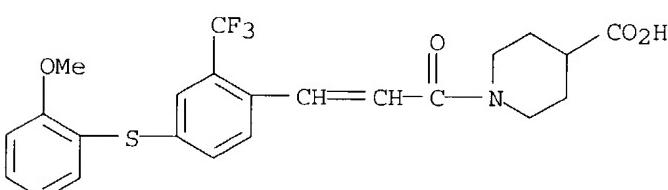
RN 609842-01-5 CAPLUS

CN Piperazine, 1-acetyl-4-[3-[2-fluoro-4-[(2-methoxyphenyl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



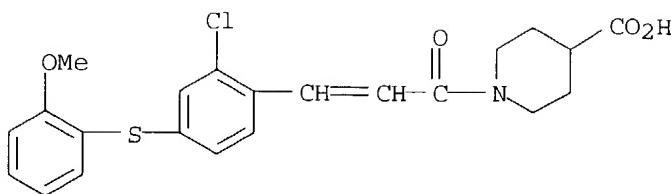
RN 609842-02-6 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[4-[(2-methoxyphenyl)thio]-2-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



RN 609842-03-7 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[2-chloro-4-[(2-methoxyphenyl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



AB To find out the chemical and structural features of some p-arylthio cinnamides 1 as antagonists of biochem. ICAM-1/LFA-1 interaction as well as ICAM-1/JY-8 cell adhesion in relation to anti-inflammatory activity, QSAR study was performed. Steric effect on the arylthio ring and lipophilic substitutions at 2,3-positions, especially 2,3-disubstitution with Cl or CF₃ or both on cinnamides 1 were conducive to the activity, whereas simultaneous presence of methoxy group at arylthio ring and NCOCH₃ group at heterocyclic ring of cinnamides 1 were detrimental to activity in antagonism of biochem. ICAM-1/LFA-1 interaction. When inhibition of ICAM-1/JY-8 cell adhesion was considered, lipophilic substitution on ring B and simultaneous presence of CF₃ groups at 2 and 3 positions of the ring B were advantageous to antagonism. This QSAR study showed that B ring has played the most important role for both types of activities.

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:758465 CAPLUS
DN 136:47984
TI Discovery of Novel p-Arylthio Cinnamides as Antagonists of Leukocyte Function-Associated Antigen-1/Intercellular Adhesion Molecule-1 Interaction. 4. Structure-Activity Relationship of Substituents on the Benzene Ring of the Cinnamide
AU Winn, Martin; Reilly, Edward B.; Liu, Gang; Huth, Jeffrey R.; Jae, Hwan-Soo; Freeman, Jennifer; Pei, Zhonghua; Xin, Zhili; Lynch, John; Kester, Jeff; von Geldern, Thomas W.; Leitza, Sandra; DeVries, Peter; Dickinson, Robert; Mussatto, Donna; Okasinski, Gregory F.
CS Metabolic Disease Research Pharmaceutical Products Division, Abbott Laboratories, Abbott Park, IL, 60064-6098, USA
SO Journal of Medicinal Chemistry (2001), 44(25), 4393-4403
CODEN: JMCMAR; ISSN: 0022-2623
PB American Chemical Society
DT Journal
LA English
IT 280749-37-3P 280751-73-7P 280751-81-7P
280752-13-8P 280752-14-9P 280752-36-5P
381229-64-7P 381229-66-9P 381229-67-0P
381229-69-2P 381229-70-5P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
RN 280749-37-3 CAPLUS
CN Morpholine, 4-[(2E)-3-[3-chloro-4-[(2-methoxyphenyl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

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PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS 11 DEC 08 IMS file names changed
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NEWS 18 DEC 22 IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields
NEWS 19 DEC 22 ABI-INFORM now available on STN
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NEWS 21 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/Cplus
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COST IN U.S. DOLLARS

FULL ESTIMATED COST

| SINCE FILE
ENTRY | TOTAL
SESSION |
|---------------------|------------------|
| 0.21 | 0.21 |

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=>
Uploading c:\program files\stnexp\queries\09541795.13

L1 STRUCTURE UPLOADED

```
=> d 11
L1 HAS NO ANSWERS
L1           STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
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Structure attributes must be viewed using STN Express query preparation.

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FULL SEARCH INITIATED 16:42:43 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 441 TO ITERATE
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100.0% PROCESSED 441 ITERATIONS 106 ANSWERS
SEARCH TIME: 00:00:01

L2 106 SEA SSS EUL L1

=> file caplus

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST | 155.42 | 155.63 |

FILE 'CAPLUS' ENTERED AT 16:42:50 ON 01 MAR 2004
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FILE COVERS 1907 - 1 Mar 2004 VOL 140 ISS 10
 FILE LAST UPDATED: 29 Feb 2004 (20040229/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s 12
L3      4 L2
```

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=> d 13 fbib hitstr abs total
```

L3 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2003:235035 CAPLUS
 DN 139:285618
 TI QSAR Study on Some p-Arylthio Cinnamides as Antagonists of Biochemical ICAM-1/LFA-1 Interaction and ICAM-1/JY-8 Cell Adhesion in Relation to Anti-inflammatory Activity
 AU Debnath, Bikash; Samanta, Soma; Roy, Kunal; Jha, Tarun
 CS Department of Pharmaceutical Technology, Division of Pharmaceutical and Medicinal Chemistry, Jadavpur University, Kolkata, 700 032, India
 SO Bioorganic & Medicinal Chemistry (2003), 11(8), 1615-1619
 CODEN: BMECEP; ISSN: 0968-0896
 PB Elsevier Science Ltd.
 DT Journal
 LA English
 IT 609841-80-7 609841-90-9 609841-91-0
 609841-95-4 609841-96-5 609841-97-6
 609842-01-5 609842-02-6 609842-03-7
 RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (QSAR study on arylthio cinnamides as antagonists of biochem.
 ICAM-1/LFA-1 interaction and ICAM-1/JY-8 cell adhesion)
 RN 609841-80-7 CAPLUS
 CN Morpholine, 4-[3-[3-chloro-4-[(2-methoxyphenyl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

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PASSWORD :

TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS 11 DEC 08 IMS file names changed
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NEWS 14 DEC 17 DGENE: Two new display fields added
NEWS 15 DEC 18 BIOTECHNO no longer updated
NEWS 16 DEC 19 CROPU no longer updated; subscriber discount no longer available
NEWS 17 DEC 22 Additional INPI reactions and pre-1907 documents added to CAS databases
NEWS 18 DEC 22 IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields
NEWS 19 DEC 22 ABI-INFORM now available on STN
NEWS 20 JAN 27 Source of Registration (SR) information in REGISTRY updated and searchable
NEWS 21 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/CPlus
NEWS 22 FEB 05 German (DE) application and patent publication number format changes

NEWS EXPRESS DECEMBER 28 CURRENT WINDOWS VERSION IS V7.00, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
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DICTIONARY FILE UPDATES: 29 FEB 2004 HIGHEST RN 656221-41-9

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

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Crossover limits have been increased. See HELP CROSSOVER for details.

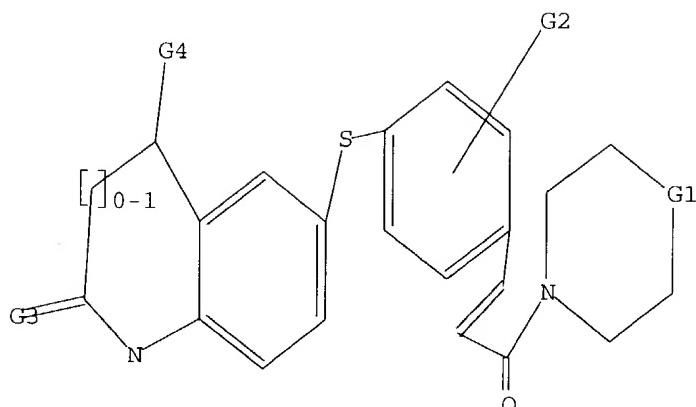
Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at

to the fire summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> Uploading c:\program files\stnexp\queries\09541795.16

L1 STRUCTURE UPLOADED

=> d 11
L1 HAS NO ANSWERS
L1 STR



G1 C,O,S,N,NH,CH₂,CH

G2 CF₃,X

G3 H,O

G4 C,O,S,N,CH₂,CH

Structure attributes must be viewed using STN Express query preparation.

```
=> s l1 sss full
FULL SEARCH INITIATED 16:50:30 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 48 TO ITERATE
```

```
100.0% PROCESSED 48 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01
```

L2 0 SEA SSS FUL L1

```
=> file marpat
COST IN U.S. DOLLARS SINCE FILE TOTAL
FULL ESTIMATED COST ENTRY SESSION
155.42 155.63
```

```
FILE 'MARPAT' ENTERED AT 16:50:39 ON 01 MAR 2004
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FILE CONTENT: 1988-PRESENT (VOL 140 ISS 09) (20040227/ED)

MOST RECENT CITATIONS FOR PATENTS FROM FIVE MAJOR ISSUING AGENCIES
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| | | |
|----|------------|-------------|
| US | 6683216 | 27 JAN 2004 |
| DE | 10317487 | 05 FEB 2004 |
| EP | 1388584 | 11 FEB 2004 |
| JP | 2004035475 | 05 FEB 2004 |
| WO | 2004009876 | 29 JAN 2004 |

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

=> s ll sss full
 FULL SEARCH INITIATED 16:50:47 FILE 'MARPAT'
 FULL SCREEN SEARCH COMPLETED - 4167 TO ITERATE

100.0% PROCESSED 4167 ITERATIONS 0 ANSWERS
 SEARCH TIME: 00.00.18

L3 0 SEA SSS FUL L1

=> file caold
 COST IN U.S. DOLLARS SINCE FILE TOTAL
 FULL ESTIMATED COST ENTRY SESSION
 109.42 265.05

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FILE COVERS 1907-1966
 FILE LAST UPDATED: 01 May 1997 (19970501/UP)

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=> s ll sss full
REGISTRY INITIATED
 Substance data SEARCH and crossover from CAS REGISTRY in progress...
 Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

FULL SEARCH INITIATED 16:51:22 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 48 TO ITERATE

100.0% PROCESSED 48 ITERATIONS 0 ANSWERS
 SEARCH TIME: 00.00.01

L4 0 SEA SSS FUL L1

L5 0 L4
 => log y
 COST IN U.S. DOLLARS SINCE FILE TOTAL
 ENTRY SESSION

09541795.16

Page 5

FULL ESTIMATED COST 0.42 421.31

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NEWS 10 DEC 08 CABA reloaded with left truncation
NEWS 11 DEC 08 IMS file names changed
NEWS 12 DEC 09 Experimental property data collected by CAS now available in REGISTRY
NEWS 13 DEC 09 STN Entry Date available for display in REGISTRY and CA/CAplus
NEWS 14 DEC 17 DGENE: Two new display fields added
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NEWS 22 FEB 05 German (DE) application and patent publication number format changes

NEWS EXPRESS DECEMBER 28 CURRENT WINDOWS VERSION IS V7.00, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
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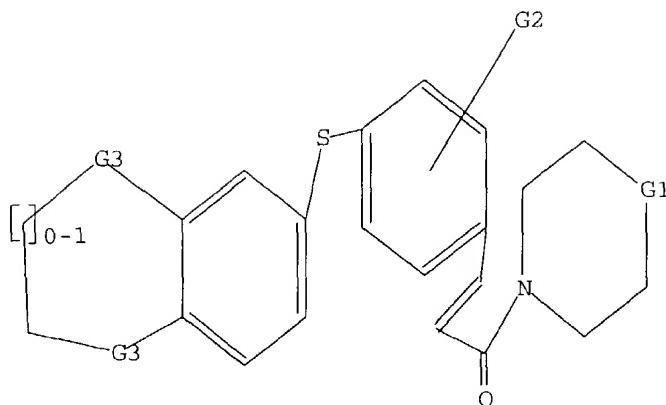
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=>
Uploading c:\program files\stnexp\queries\09541795.17

STRUCTURE_UPLOADED

=> d 11
L1 HAS NO ANSWERS
L1 STR



G1 C,O,S,N,NH,CH₂,CH

G2 CF₃,X

G3 C,O,S,N

Structure attributes must be viewed using STN Express query preparation.

```
=> s 11 sss full
FULL SEARCH INITIATED 16:55:18 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 610 TO ITERATE
```

| | | |
|-----------------------|----------------|------------|
| 100.0% PROCESSED | 610 ITERATIONS | 67 ANSWERS |
| SEARCH TIME: 00.00.01 | | |

L2 67 SEA SSS FUL L1

| | | |
|----------------------|------------|---------|
| => file marpat | SINCE FILE | TOTAL |
| COST IN U.S. DOLLARS | ENTRY | SESSION |
| FULL ESTIMATED COST | 155.42 | 155.63 |

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| US | 6683216 | 27 JAN 2004 |
| DE | 10317487 | 05 FEB 2004 |
| EP | 1388584 | 11 FEB 2004 |
| JP | 2004035475 | 05 FEB 2004 |
| WO | 2004009876 | 29 JAN 2004 |

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

09541795.17

Page 4

=> s 11 sss full
FULL SEARCH INITIATED 16:55:34 FILE 'MARPAT'
FULL SCREEN SEARCH COMPLETED - 8802 TO ITERATE

93.2% PROCESSED 8204 ITERATIONS 1 ANSWERS
100.0% PROCESSED 8802 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.24

L3 1 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
FULL ESTIMATED COST ENTRY SESSION
109.42 265.05

FILE 'CAPLUS' ENTERED AT 16:56:08 ON 01 MAR 2004
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FILE COVERS 1907 - 1 Mar 2004 VOL 140 ISS 10
FILE LAST UPDATED: 29 Feb 2004 (20040229/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d his

(FILE 'HOME' ENTERED AT 16:54:38 ON 01 MAR 2004)

FILE 'REGISTRY' ENTERED AT 16:54:47 ON 01 MAR 2004
L1 STRUCTURE uploaded
L2 67 S L1 SSS FULL

FILE 'MARPAT' ENTERED AT 16:55:26 ON 01 MAR 2004
L3 1 S L1 SSS FULL

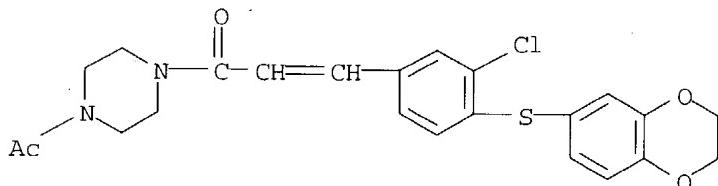
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=> s 12
L4 6 L2

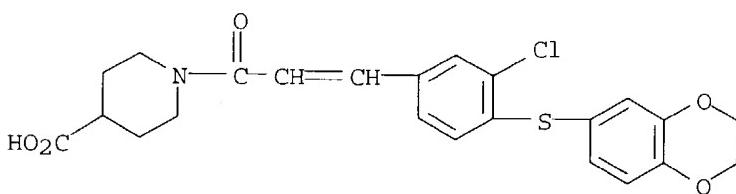
=> s 13
L5 1 L3

=> d 14 fbib hitstr abs total

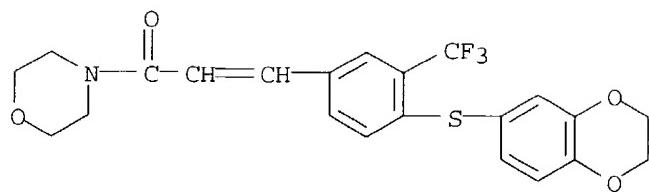
L4 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2003:235035 CAPLUS
 DN 139:285618
 TI QSAR Study on Some p-Arylthio Cinnamides as Antagonists of Biochemical ICAM-1/LFA-1 Interaction and ICAM-1/JY-8 Cell Adhesion in Relation to Anti-inflammatory Activity
 AU Debnath, Bikash; Samanta, Soma; Roy, Kunal; Jha, Tarun
 CS Department of Pharmaceutical Technology, Division of Pharmaceutical and Medicinal Chemistry, Jadavpur University, Kolkata, 700 032, India
 SO Bioorganic & Medicinal Chemistry (2003), 11(8), 1615-1619
 CODEN: BMECEP; ISSN: 0968-0896
 PB Elsevier Science Ltd.
 DT Journal
 LA English
 IT 609841-81-8 609841-82-9 609841-83-0
 609841-84-1 609841-85-2 609841-89-6
 609841-93-2 609841-94-3 609841-98-7
 RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (QSAR study on arylthio cinnamides as antagonists of biochem.
 ICAM-1/LFA-1 interaction and ICAM-1/JY-8 cell adhesion)
 RN 609841-81-8 CAPLUS
 CN Piperazine, 1-acetyl-4-[3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



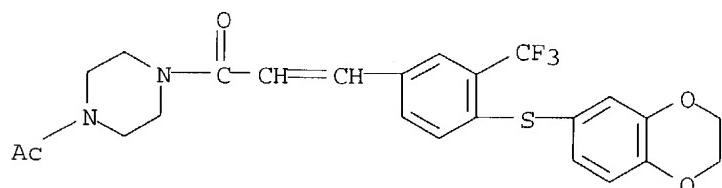
RN 609841-82-9 CAPLUS
 CN 4-Piperidinecarboxylic acid, 1-[3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



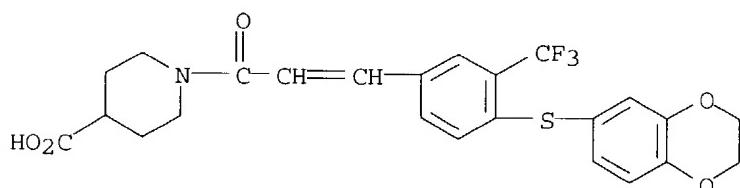
RN 609841-83-0 CAPLUS
 CN Morpholine, 4-[3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



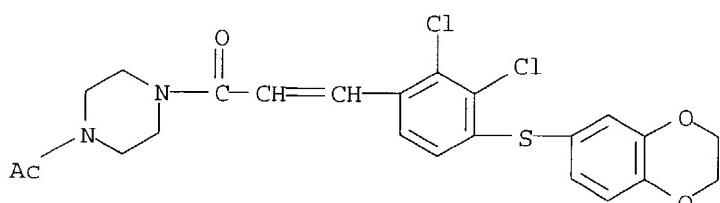
RN 609841-84-1 CAPLUS
 CN Piperazine, 1-acetyl-4-[3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



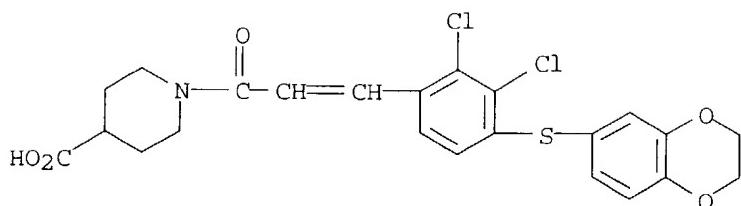
RN 609841-85-2 CAPLUS
 CN 4-Piperidinecarboxylic acid, 1-[3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



RN 609841-89-6 CAPLUS
 CN Piperazine, 1-acetyl-4-[3-[2,3-dichloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

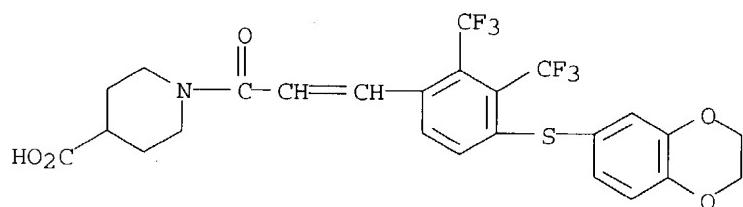


RN 609841-93-2 CAPLUS
 CN 4-Piperidinecarboxylic acid, 1-[3-[2,3-dichloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



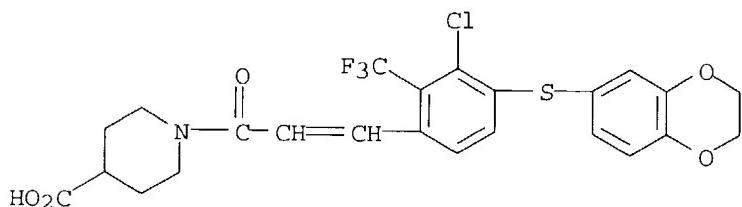
RN 609841-94-3 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-2,3-bis(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



RN 609841-98-7 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-2-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)



AB To find out the chemical and structural features of some p-arylthio cinnamides 1 as antagonists of biochem. ICAM-1/LFA-1 interaction as well as ICAM-1/JY-8 cell adhesion in relation to anti-inflammatory activity, QSAR study was performed. Steric effect on the arylthio ring and lipophilic substitutions at 2,3-positions, especially 2,3-disubstitution with

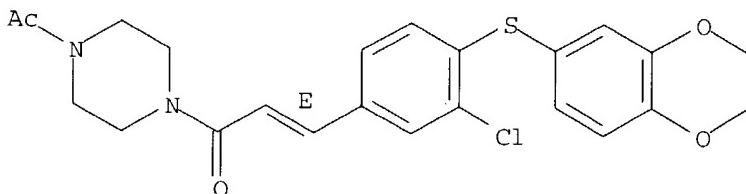
C1 or CF₃ or both on cinnamides 1 were conducive to the activity, whereas simultaneous presence of methoxy group at arylthio ring and NCOCH₃ group at heterocyclic ring of cinnamides 1 were detrimental to activity in antagonism of biochem. ICAM-1/LFA-1 interaction. When inhibition of ICAM-1/JY-8 cell adhesion was considered, lipophilic substitution on ring B and simultaneous presence of CF₃ groups at 2 and 3 positions of the ring B were advantageous to antagonism. This QSAR study showed that B ring has played the most important role for both types of activities.

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

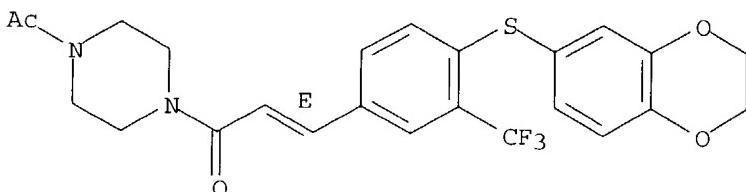
AN 2001:758465 CAPLUS
 DN 136:47984
 TI Discovery of Novel p-Arylthio Cinnamides as Antagonists of Leukocyte Function-Associated Antigen-1/Intercellular Adhesion Molecule-1 Interaction. 4. Structure-Activity Relationship of Substituents on the Benzene Ring of the Cinnamide
 AU Winn, Martin; Reilly, Edward B.; Liu, Gang; Huth, Jeffrey R.; Jae, Hwan-Soo; Freeman, Jennifer; Pei, Zhonghua; Xin, Zhili; Lynch, John; Kester, Jeff; von Geldern, Thomas W.; Leitz, Sandra; DeVries, Peter; Dickinson, Robert; Mussatto, Donna; Okasinski, Gregory F.
 CS Metabolic Disease Research Pharmaceutical Products Division, Abbott Laboratories, Abbott Park, IL, 60064-6098, USA
 SO Journal of Medicinal Chemistry (2001), 44(25), 4393-4403
 CODEN: JMCMAR; ISSN: 0022-2623
 PB American Chemical Society
 DT Journal
 LA English
 IT 280750-31-4P 280750-96-1P 280751-25-9P
 280751-88-4P 280751-92-0P 280752-20-7P
 301178-60-9P 381229-59-0P 381229-62-5P
 381229-65-8P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation and structure-activity relationships of p-arylthio cinnamides as antagonists of LFA-1/ICAM-1)
 RN 280750-31-4 CAPLUS
 CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 280750-96-1 CAPLUS
 CN Piperazine, 1-acetyl-4-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

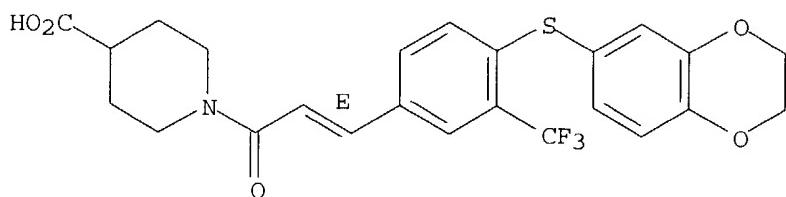
Double bond geometry as shown.



RN 280751-25-9 CAPLUS
 CN 4-Piperidinocarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-

yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

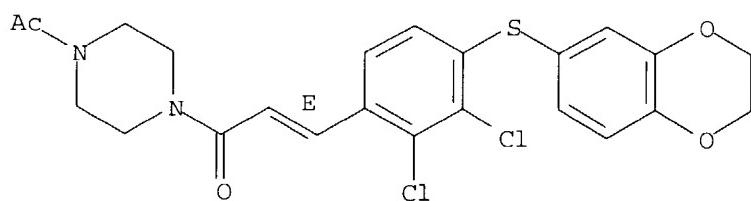
Double bond geometry as shown.



RN 280751-88-4 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[2,3-dichloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

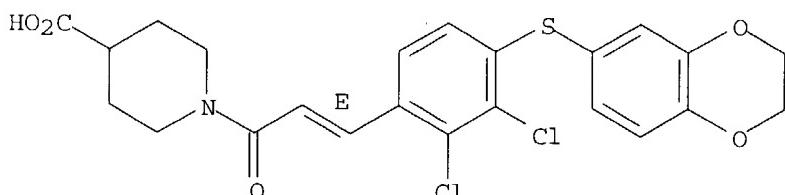
Double bond geometry as shown.



RN 280751-92-0 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[2,3-dichloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

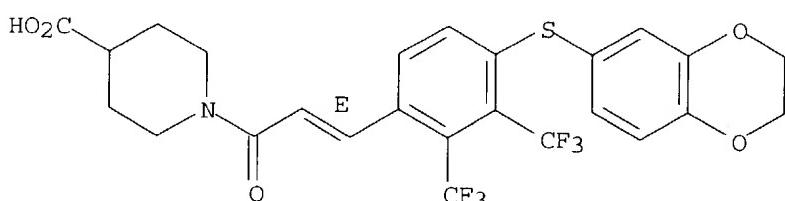
Double bond geometry as shown.



RN 280752-20-7 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-2,3-bis(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

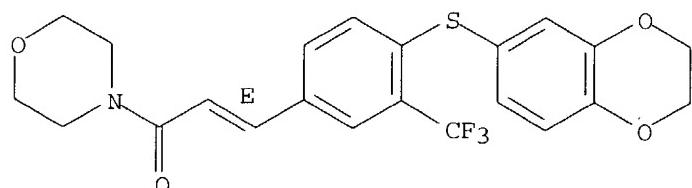
Double bond geometry as shown.



RN 301178-60-9 CAPLUS

CN Morpholine, 4-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

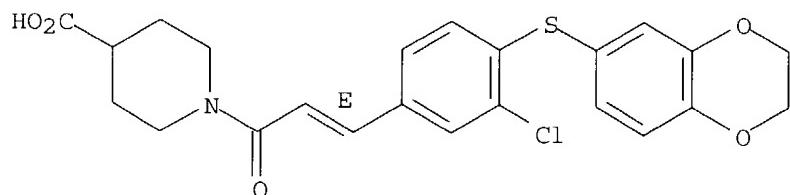
Double bond geometry as shown.



RN 381229-59-0 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

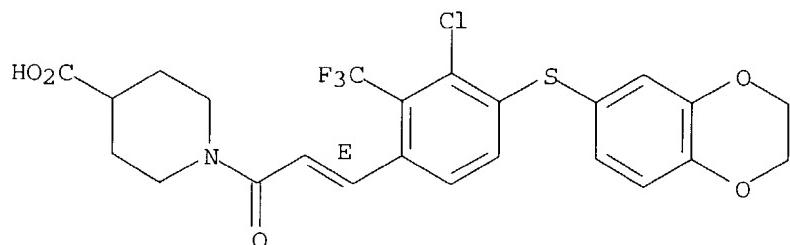
Double bond geometry as shown.



RN 381229-62-5 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-5-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

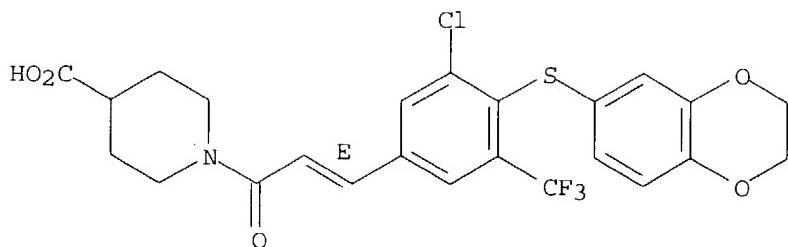
Double bond geometry as shown.



RN 381229-65-8 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-5-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

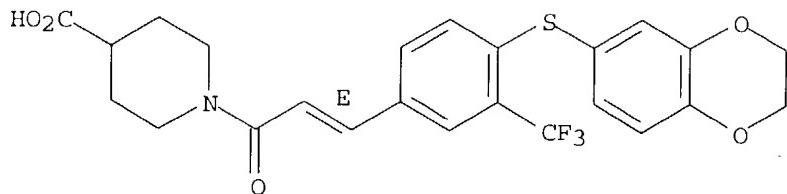


AB We have shown that p-arylthio cinnamides can inhibit the interaction of LFA-1 and ICAM-1, which is involved in cell adhesion and the inflammatory process. We now show that 2,3-disubstitution on the aryl portion of the cinnamide results in enhanced activity over mono substitution on the ring. The best 2,3-substituents were chlorine and trifluoromethyl groups. Compds. 39 and 40 which contain two CF₃ groups have IC₅₀ values of 0.5 and 0.1 nM, resp., in inhibiting JY8 cells expressing LFA-1 on their surface, from adhering to ICAM-1. The structure-activity relation (SAR) was examined using an NMR based model of the LFA-1 I domain/compound 31 complex. One of our compds. (38) was able to reduce cell migration in two different *in vivo* expts.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2001:555592 CAPLUS
 DN 135:282681
 TI Discovery of Potent Antagonists of Leukocyte Function-Associated Antigen-1/Intercellular Adhesion Molecule-1 Interaction. 3. Amide (C-Ring) Structure-Activity Relationship and Improvement of Overall Properties of Arylthio Cinnamides
 AU Pei, Zhonghua; Xin, Zhili; Liu, Gang; Li, Yihong; Reilly, Edward B.; Lubbers, Nathan L.; Huth, Jeffery R.; Link, James T.; von Geldern, Thomas W.; Cox, Bryan F.; Leitza, Sandra; Gao, Yi; Marsh, Kennan C.; DeVries, Peter; Okasinski, Greg F.
 CS Departments of Metabolic Disease Research Integrative Pharmacology Advanced Technology and Drug Analysis Pharmaceutical Products Division, Abbott Laboratories, Abbott Park, IL, 60064, USA
 SO Journal of Medicinal Chemistry (2001), 44(18), 2913-2920
 CODEN: JMCMAR; ISSN: 0022-2623
 PB American Chemical Society
 DT Journal
 LA English
 IT 280751-25-9P 364613-14-9P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (discovery of potent antagonists of LFA-1/ICAM-1 interaction. 3. amide SAR and improvement of overall properties of arylthio cinnamides)
 RN 280751-25-9 CAPLUS
 CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thiol]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

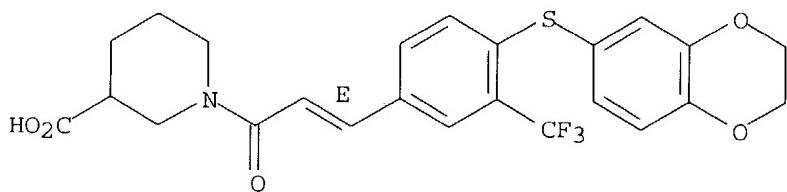
Double bond geometry as shown.



RN 364613-14-9 CAPLUS

CN 3-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



AB The interaction of LFA-1 and ICAM-1 plays an important role in the cell adhesion process. On the basis of previously reported SAR and structural information on the binding of our p-arylthiocinnamide series to LFA-1, we have identified the cyclic amide (C-ring) as a site for modification. Improvement in potency and, more importantly, in the phys. properties and pharmacokinetic profiles of the leading compds. resulted from this modification. One of the best compds. (11f) is also shown to reduce myocardial infarct size in rat.

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:192987 CAPLUS

DN 135:160

TI Novel p-Arylthio Cinnamides as Antagonists of Leukocyte Function-Associated Antigen-1/Intracellular Adhesion Molecule-1 Interaction. 2. Mechanism of Inhibition and Structure-Based Improvement of Pharmaceutical Properties

AU Liu, Gang; Huth, Jeffrey R.; Olejniczak, Edward T.; Mendoza, Renaldo; DeVries, Peter; Leitza, Sandra; Reilly, Edward B.; Okasinski, Gregory F.; Fesik, Stephen W.; von Geldern, Thomas W.

CS Metabolic Disease Research and Research NMR Pharmaceutical Products Division, Abbott Laboratories, Abbott Park, IL, 60064-6098, USA

SO Journal of Medicinal Chemistry (2001), 44(8), 1202-1210
CODEN: JMCMAR; ISSN: 0022-2623

PB American Chemical Society

DT Journal

LA English

OS CASREACT 135:160

IT 280750-31-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES

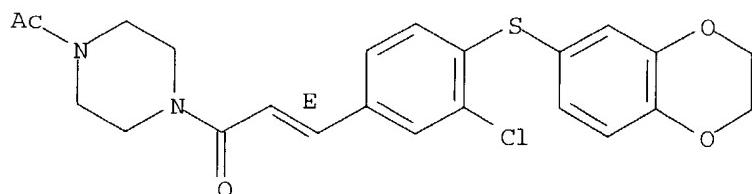
(Uses)

(preparation and structure activity relations of arylthiocinnamides as antagonists of antigen LFA-1/ICAM-1 interaction as derived from NMR based screening)

RN 280750-31-4 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thiol]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT 280749-53-3P 280750-12-1P 280750-82-5P
280750-88-1P 280751-01-1P 280751-40-8P
341497-65-2P

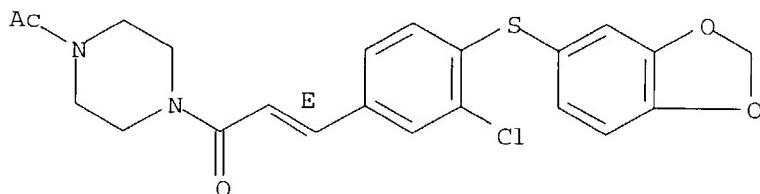
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation and structure activity relations of arylthiocinnamides as antagonists of antigen LFA-1/ICAM-1 interaction as derived from NMR based screening)

RN 280749-53-3 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[4-(1,3-benzodioxol-5-ylthio)-3-chlorophenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

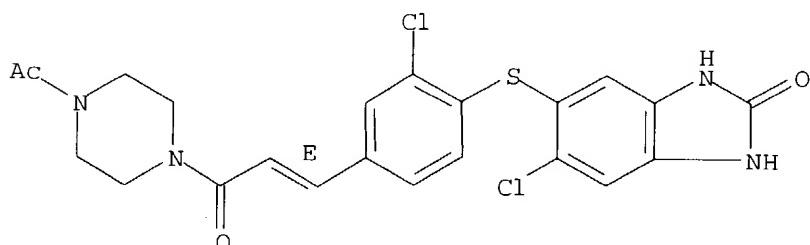
Double bond geometry as shown.



RN 280750-12-1 CAPLUS

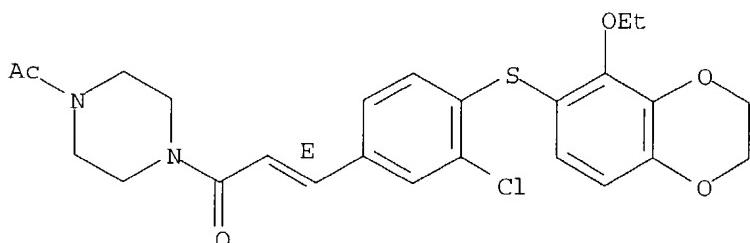
CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(6-chloro-2,3-dihydro-2-oxo-1H-benzimidazol-5-yl)thiol]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



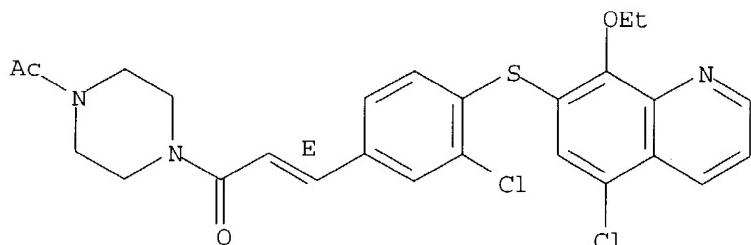
RN 280750-82-5 CAPLUS
 CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(5-ethoxy-2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



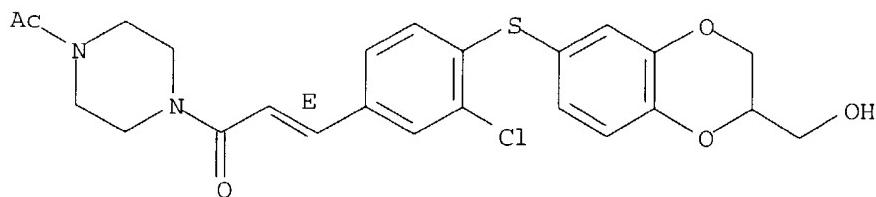
RN 280750-88-1 CAPLUS
 CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(5-chloro-8-ethoxy-7-quinolinyl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



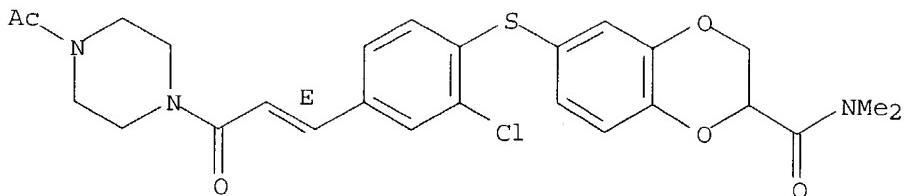
RN 280751-01-1 CAPLUS
 CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(2,3-dihydro-2-(hydroxymethyl)-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 280751-40-8 CAPLUS
 CN 1,4-Benzodioxin-2-carboxamide, 6-[[4-[(1E)-3-(4-acetyl-1-piperazinyl)-3-oxo-1-propenyl]-2-chlorophenyl]thio]-2,3-dihydro-N,N-dimethyl- (9CI) (CA INDEX NAME)

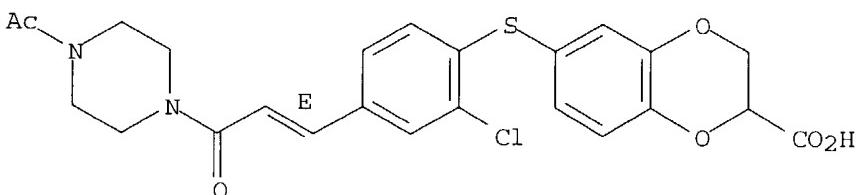
Double bond geometry as shown.



RN 341497-65-2 CAPLUS

CN 1,4-Benzodioxin-2-carboxylic acid, 6-[[4-[(1E)-3-(4-acetyl-1-piperazinyl)-3-oxo-1-propenyl]-2-chlorophenyl]thio]-2,3-dihydro- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



AB The interaction between leukocyte function-associated antigen-1 (LFA-1) and intracellular adhesion mol.-1 (ICAM-1) has been implicated in inflammatory and immune diseases. Recently, a novel series of p-arylthio cinnamides has been described as potent antagonists of the LFA-1/ICAM-1 interaction. These compds. were found to bind to the I domain of LFA-1 using two-dimensional NMR spectroscopy of 15N-labeled LFA-1 I domain. On the basis of NOE studies between a certain compound and the I domain of LFA-1, a model of the complex was constructed. This model revealed that this compound does not directly inhibit ICAM-1 binding by interacting with the metal ion dependent adhesion site (MIDAS). Instead, it binds to the previously proposed I domain allosteric site (IDAS) of LFA-1 and likely modulates the activation of LFA-1 through its interaction with this regulatory site. A fragment-based NMR screening strategy was applied to identify small, more water-soluble ligands that bind to a specific region of the IDAS. When incorporated into the parent cinnamide template, the resulting analogs exhibited increased aqueous solubility and improved pharmacokinetic profiles in rats, demonstrating the power of this NMR-based screening approach for rapidly modifying high-affinity ligands.

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:725609 CAPLUS

DN 133:296281

TI Preparation of 2- or 4-(phenylthio)cinnamides as cell adhesion-inhibiting antiinflammatory and immune-suppressive compounds

IN Link, James; Liu, Gang; Pei, Zhonghua; Von Geldern, Thomas W.; Winn, Martin; Xin, Zhili; Wang, Sheldon; Boyd, Steven A.; Zhu, Gui-Dong; Freeman, Jennifer C.; Gunawardana, Indrani W.; Staeger, Michael A.; Jae, Hwan-soo; Lynch, John K.

PA Abbott Laboratories, USA

SO PCT Int. Appl., 476 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

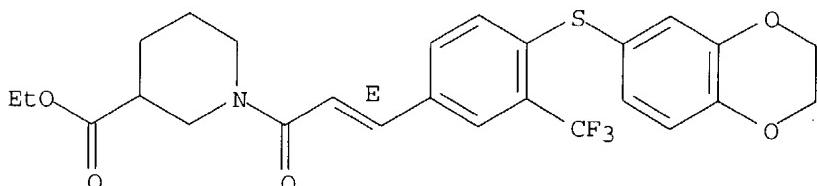
| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|------------------|----------|
| PI | WO 2000059880 | A1 | 20001012 | WO 2000-US8895 | 20000403 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | US 1999-286645 A | 19990402 |
| | | | | US 1999-474517 A | 19991229 |
| | | | | US 2000-541795 A | 20000331 |
| EP | 1165505 | A1 | 20020102 | EP 2000-921654 | 20000403 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | US 1999-286645 A | 19990402 |
| | | | | US 1999-474517 A | 19991229 |
| | | | | WO 2000-US8895 W | 20000403 |
| BR | 2000009426 | A | 20020409 | BR 2000-9426 | 20000403 |
| | | | | US 1999-286645 A | 19990402 |
| | | | | US 1999-474517 A | 19991229 |
| | | | | US 2000-541795 A | 20000331 |
| | | | | WO 2000-US8895 W | 20000403 |
| EE | 200100513 | A | 20021216 | EE 2001-513 | 20000403 |
| | | | | US 1999-286645 A | 19990402 |
| | | | | US 1999-474517 A | 19991229 |
| | | | | US 2000-541795 A | 20000331 |
| | | | | WO 2000-US8895 W | 20000403 |
| NO | 2001004767 | A | 20011130 | NO 2001-4767 | 20011001 |
| | | | | US 1999-286645 A | 19990402 |
| | | | | US 1999-474517 A | 19991229 |
| | | | | WO 2000-US8895 W | 20000403 |
| BG | 106029 | A | 20020531 | BG 2001-106029 | 20011018 |
| | | | | US 1999-286645 A | 19990402 |
| | | | | US 1999-474517 A | 19991229 |
| | | | | US 2000-541795 A | 20000331 |
| | | | | WO 2000-US8895 W | 20000403 |
| HR | 2001000776 | A1 | 20021231 | HR 2001-776 | 20011023 |
| | | | | US 1999-286645 A | 19990402 |
| | | | | US 1999-474517 A | 19991229 |
| | | | | US 2000-541795 A | 20000331 |
| | | | | WO 2000-US8895 W | 20000403 |
| ZA | 2001008944 | A | 20030702 | ZA 2001-8944 | 20011030 |
| | | | | US 1999-286645 A | 19990402 |
| OS | MARPAT 133:296281 | | | | |
| IT | 280751-10-2P 280751-11-3P 280751-14-6P
280751-15-7P 280751-17-9P 280751-31-7P
280751-71-5P 280751-72-6P 280751-77-1P
280751-85-1P 280751-89-5P 280751-90-8P | | | | |
| | RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) | | | | |

(preparation of (phenylthio)cinnamides as cell adhesion inhibitors by coupling of thiophenols with halobenzaldehydes, conversion to cinnamic acids, amidation, and optional derivatization)

RN 280751-10-2 CAPLUS

CN 3-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, ethyl ester (9CI)
(CA INDEX NAME)

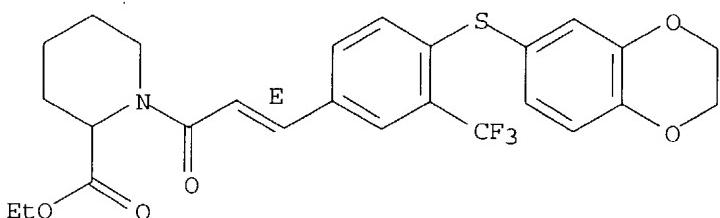
Double bond geometry as shown.



RN 280751-11-3 CAPLUS

CN 2-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, ethyl ester (9CI)
(CA INDEX NAME)

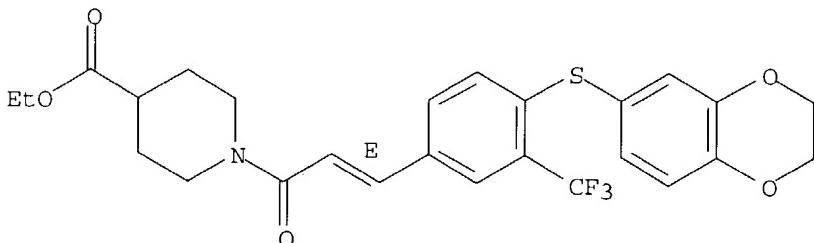
Double bond geometry as shown.



RN 280751-14-6 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, ethyl ester (9CI)
(CA INDEX NAME)

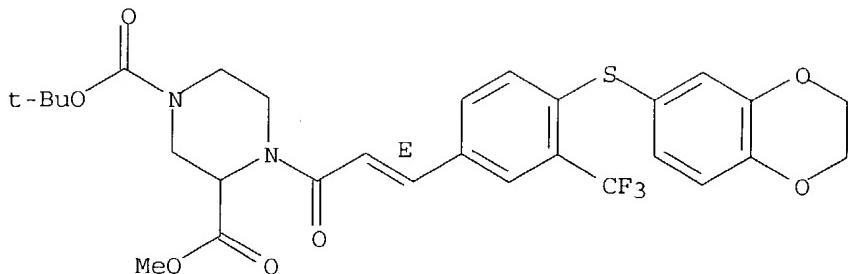
Double bond geometry as shown.



RN 280751-15-7 CAPLUS

CN 1,3-Piperazinedicarboxylic acid, 4-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, 1-(1,1-dimethylethyl) 3-methyl ester (9CI) (CA INDEX NAME)

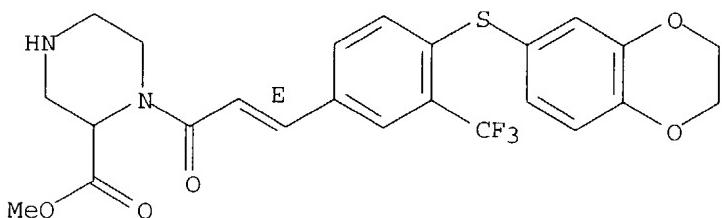
Double bond geometry as shown.



RN 280751-17-9 CAPLUS

CN 2-Piperazinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, methyl ester (9CI)
(CA INDEX NAME)

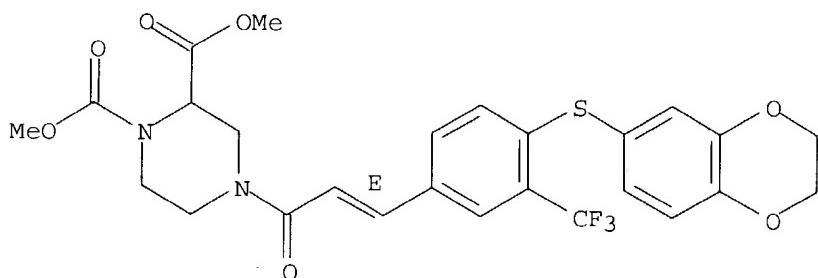
Double bond geometry as shown.



RN 280751-31-7 CAPLUS

CN 1,2-Piperazinedicarboxylic acid, 4-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, dimethyl ester (9CI) (CA INDEX NAME)

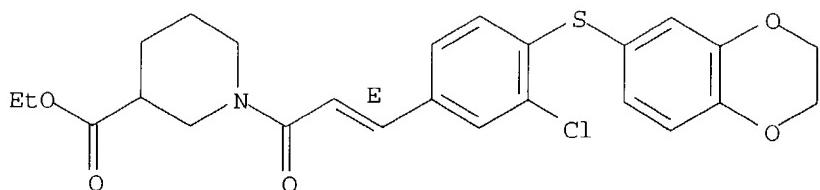
Double bond geometry as shown.



RN 280751-71-5 CAPLUS

CN 3-Piperidinecarboxylic acid, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-, ethyl ester (9CI) (CA INDEX NAME)

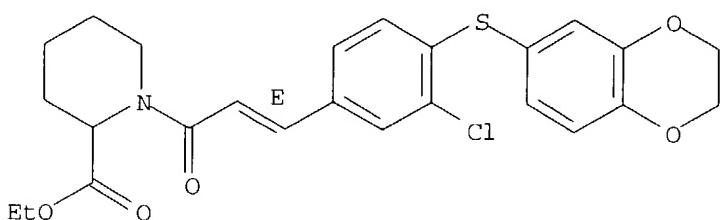
Double bond geometry as shown.



RN 280751-72-6 CAPLUS

CN 2-Piperidinecarboxylic acid, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-, ethyl ester (9CI) (CA INDEX NAME)

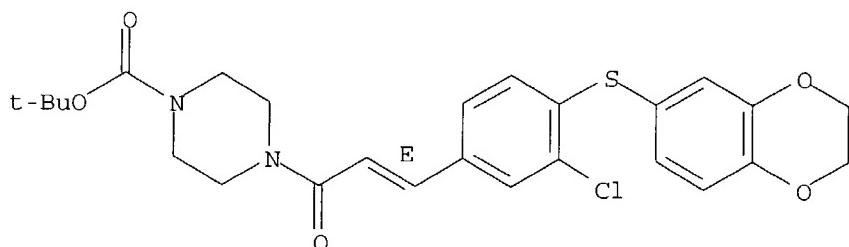
Double bond geometry as shown.



RN 280751-77-1 CAPLUS

CN 1-Piperazinecarboxylic acid, 4-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

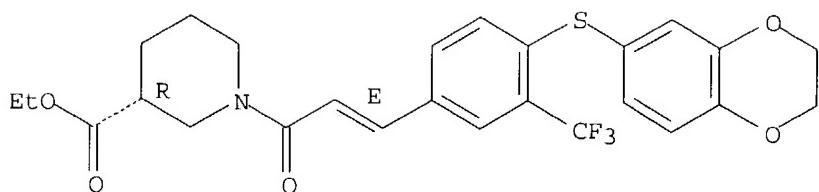


RN 280751-85-1 CAPLUS

CN 3-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, ethyl ester, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

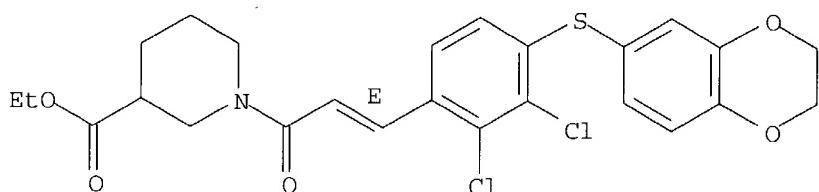
Double bond geometry as shown.



RN 280751-89-5 CAPLUS

CN 3-Piperidinecarboxylic acid, 1-[(2E)-3-[2,3-dichloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-, ethyl ester (9CI) (CA INDEX NAME)

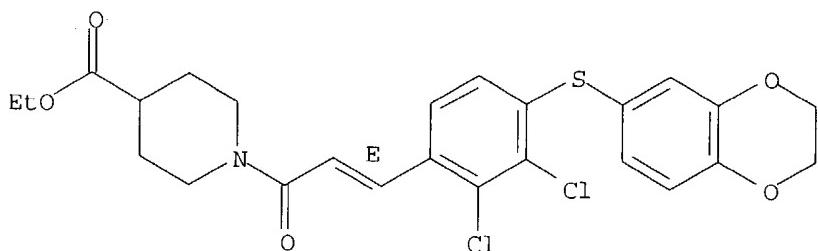
Double bond geometry as shown.



RN 280751-90-8 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[2,3-dichloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-, ethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT 280749-53-3P 280750-12-1P 280750-31-4P
 280750-82-5P 280750-88-1P 280750-96-1P
 280751-01-1P 280751-16-8P 280751-25-9P
 280751-26-0P 280751-27-1P 280751-29-3P
 280751-30-6P 280751-33-9P 280751-35-1P
 280751-39-5P 280751-54-4P 280751-55-5P
 280751-57-7P 280751-63-5P 280751-76-0P
 280751-78-2P 280751-79-3P 280751-80-6P
 280751-82-8P 280751-86-2P 280751-88-4P
 280751-91-9P 280751-92-0P 280752-20-7P
 280752-51-4P 280753-27-7P 280753-35-7P
 280753-36-8P 301178-60-9P 301178-61-0P
 301178-62-1P

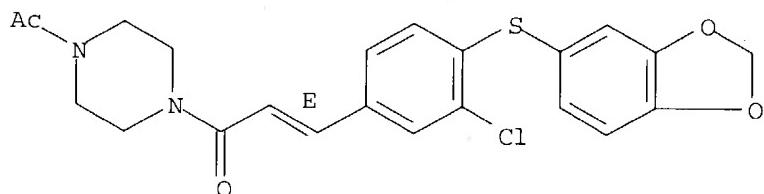
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);

BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of (phenylthio)cinnamides as cell adhesion inhibitors by coupling of thiophenols with halobenzaldehydes, conversion to cinnamic acids, amidation, and optional derivatization)

RN 280749-53-3 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[4-(1,3-benzodioxol-5-ylthio)-3-chlorophenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

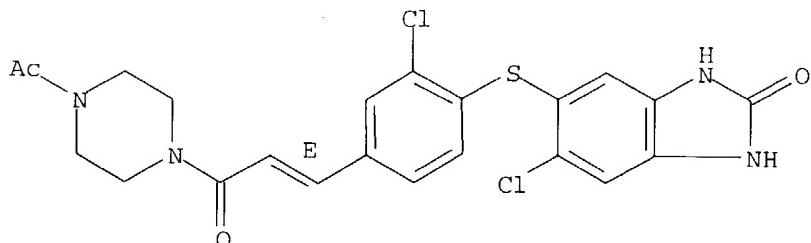
Double bond geometry as shown.



RN 280750-12-1 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(6-chloro-2,3-dihydro-2-oxo-1H-benzimidazol-5-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

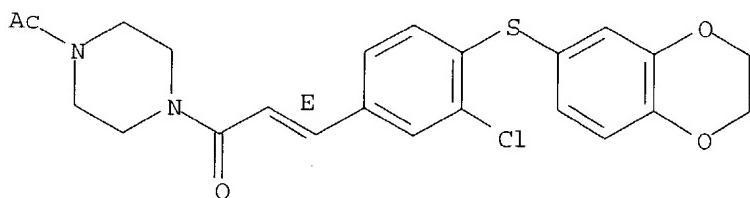
Double bond geometry as shown.



RN 280750-31-4 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

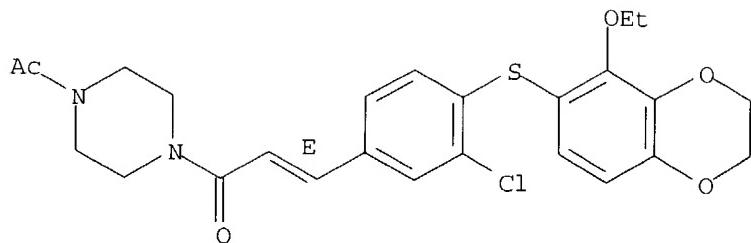
Double bond geometry as shown.



RN 280750-82-5 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(5-ethoxy-2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

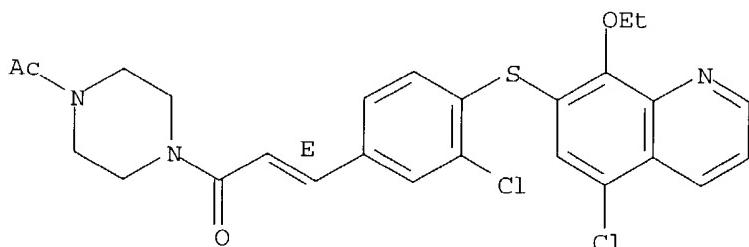
Double bond geometry as shown.



RN 280750-88-1 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(5-chloro-8-ethoxy-7-quinolinyl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

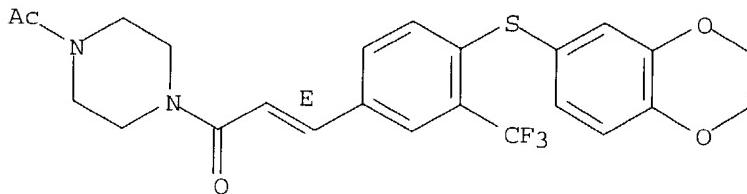
Double bond geometry as shown.



RN 280750-96-1 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

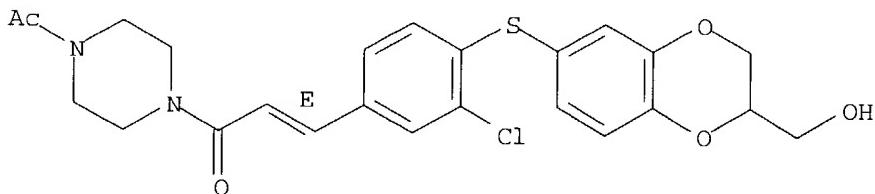
Double bond geometry as shown.



RN 280751-01-1 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[3-chloro-4-[(2,3-dihydro-2-(hydroxymethyl)-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

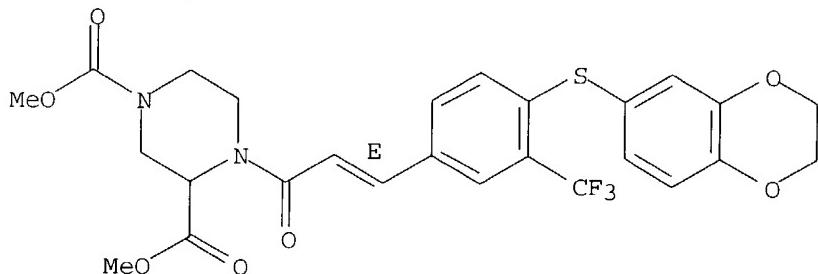
Double bond geometry as shown.



RN 280751-16-8 CAPLUS

CN 1,3-Piperazinedicarboxylic acid, 4-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, dimethyl ester (9CI) (CA INDEX NAME)

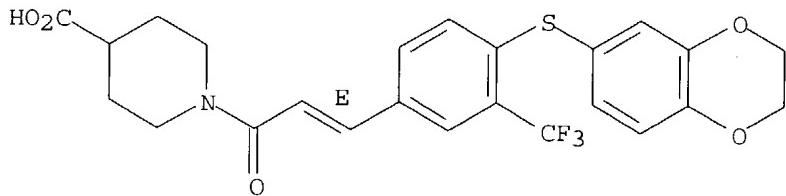
Double bond geometry as shown.



RN 280751-25-9 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

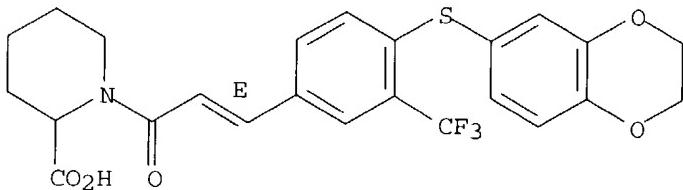
Double bond geometry as shown.



RN 280751-26-0 CAPLUS

CN 2-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

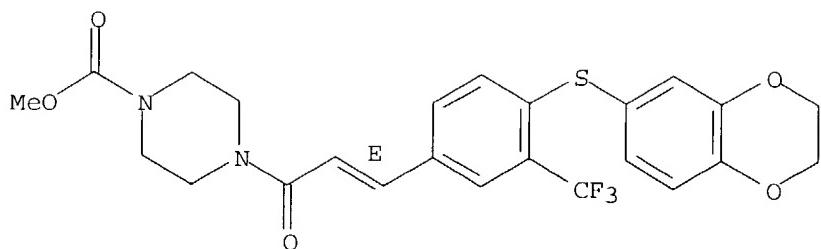
Double bond geometry as shown.



RN 280751-27-1 CAPLUS

CN 1-Piperazinecarboxylic acid, 4-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, methyl ester (9CI) (CA INDEX NAME)

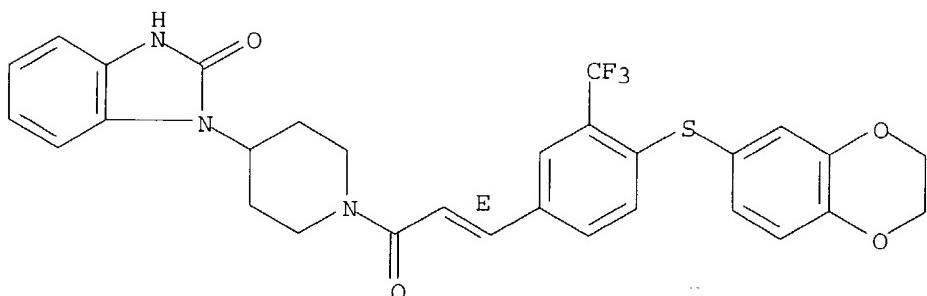
Double bond geometry as shown.



RN 280751-29-3 CAPLUS

CN Piperidine, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-4-(2,3-dihydro-2-oxo-1H-benzimidazol-1-yl)- (9CI) (CA INDEX NAME)

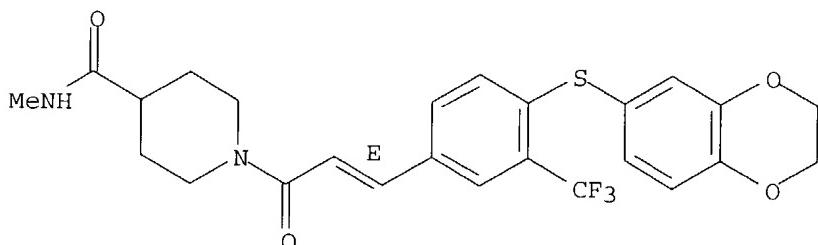
Double bond geometry as shown.



RN 280751-30-6 CAPLUS

CN 4-Piperidinecarboxamide, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-N-methyl- (9CI) (CA INDEX NAME)

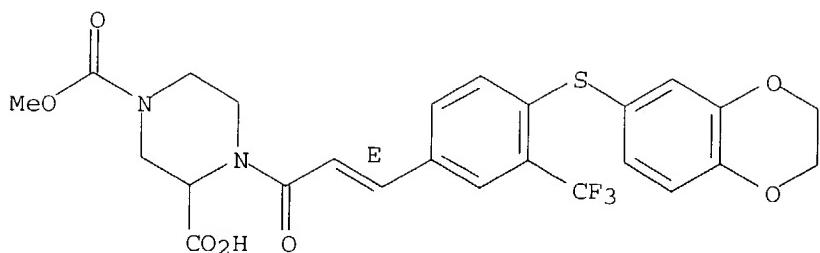
Double bond geometry as shown.



RN 280751-33-9 CAPLUS

CN 1,3-Piperazinedicarboxylic acid, 4-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, 1-methyl ester (9CI) (CA INDEX NAME)

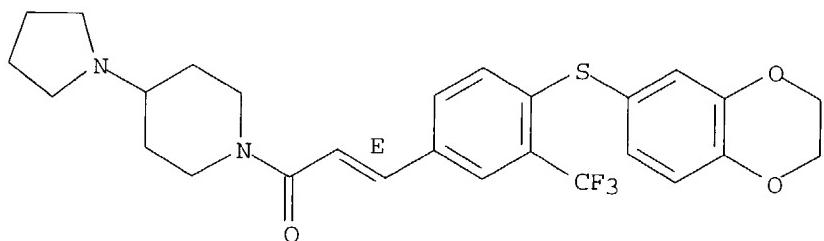
Double bond geometry as shown.



RN 280751-35-1 CAPLUS

CN Piperidine, 1-[$(2E)$ -3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-4-(1-pyrrolidinyl)- (9CI) (CA INDEX NAME)

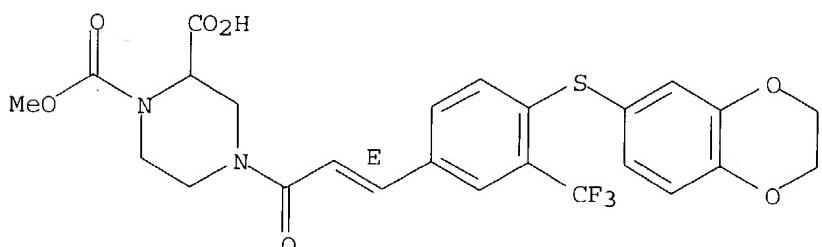
Double bond geometry as shown.



RN 280751-39-5 CAPLUS

CN 1,2-Piperazinedicarboxylic acid, 4-[$(2E)$ -3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, 1-methyl ester (9CI) (CA INDEX NAME)

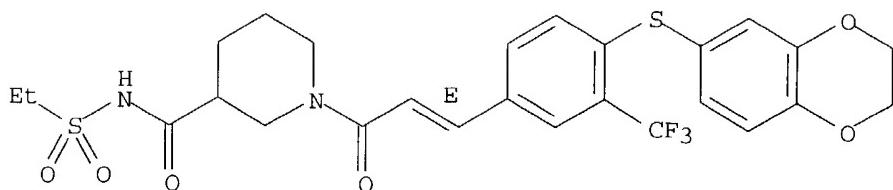
Double bond geometry as shown.



RN 280751-54-4 CAPLUS

CN 3-Piperidinecarboxamide, 1-[$(2E)$ -3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-N-(ethylsulfonyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

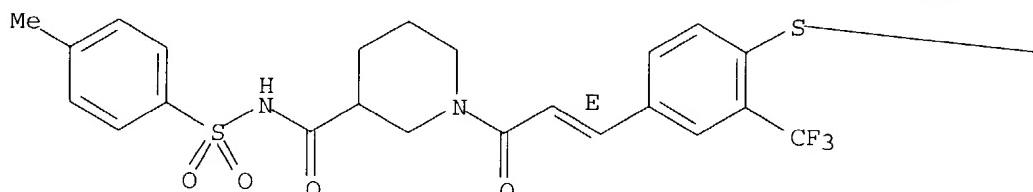


RN 280751-55-5 CAPLUS

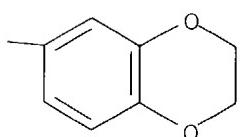
CN 3-Piperidinecarboxamide, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-N-[(4-methylphenyl)sulfonyl] - (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



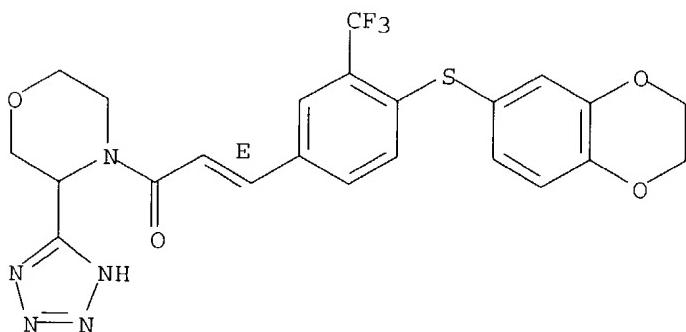
PAGE 1-B



RN 280751-57-7 CAPLUS

CN Morpholine, 4-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-3-(1H-tetrazol-5-yl) - (9CI) (CA INDEX NAME)

Double bond geometry as shown.

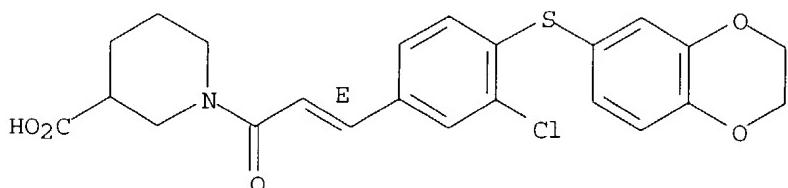


RN 280751-63-5 CAPLUS

CN 3-Piperidinecarboxylic acid, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-

benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

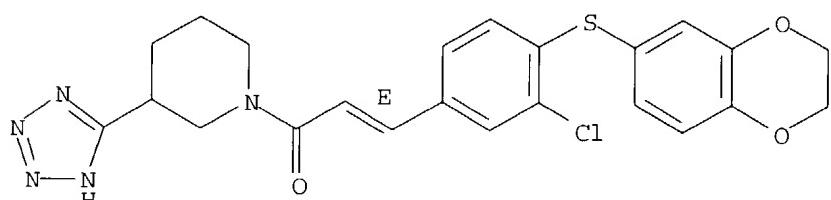
Double bond geometry as shown.



RN 280751-76-0 CAPLUS

CN Piperidine, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-3-(1H-tetrazol-5-yl)- (9CI) (CA INDEX NAME)

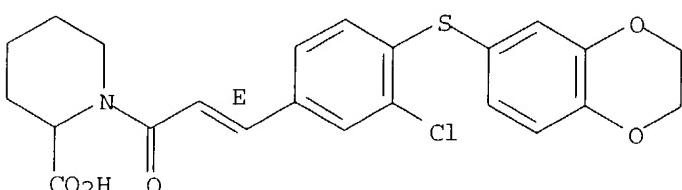
Double bond geometry as shown.



RN 280751-78-2 CAPLUS

CN 2-Piperidinecarboxylic acid, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

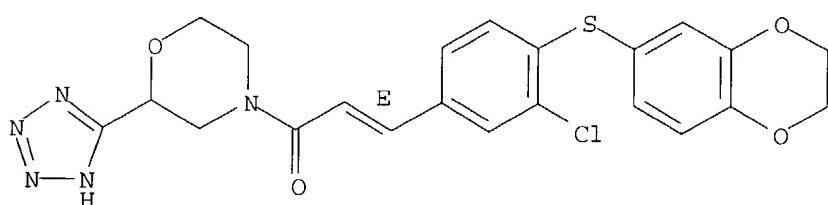
Double bond geometry as shown.



RN 280751-79-3 CAPLUS

CN Morpholine, 4-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-2-(1H-tetrazol-5-yl)- (9CI) (CA INDEX NAME)

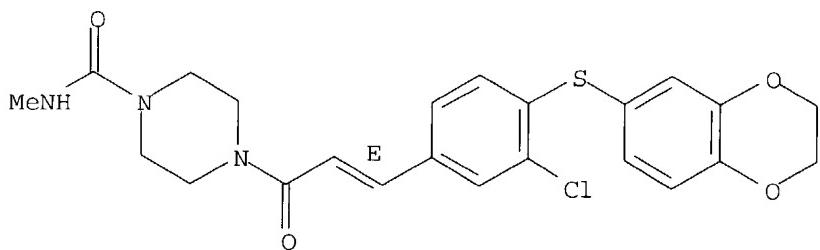
Double bond geometry as shown.



RN 280751-80-6 CAPLUS

CN 1-Piperazinecarboxamide, 4-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-N-methyl- (9CI) (CA INDEX NAME)

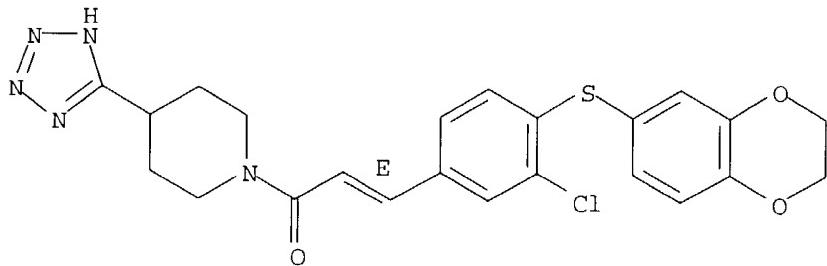
Double bond geometry as shown.



RN 280751-82-8 CAPLUS

CN Piperidine, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-4-(1H-tetrazol-5-yl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

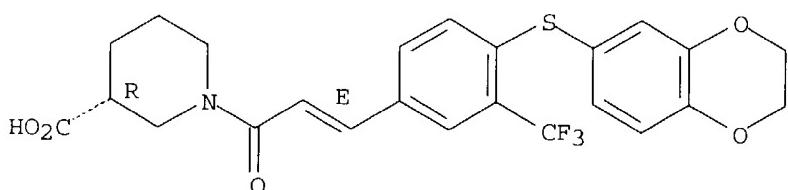


RN 280751-86-2 CAPLUS

CN 3-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

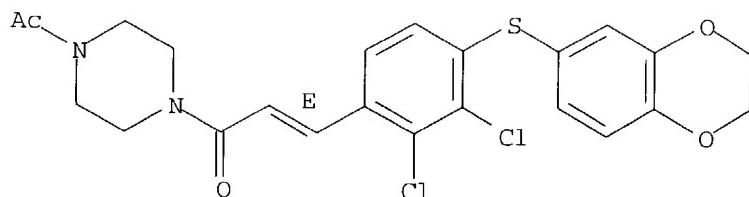
Double bond geometry as shown.



RN 280751-88-4 CAPLUS

CN Piperazine, 1-acetyl-4-[(2E)-3-[2,3-dichloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

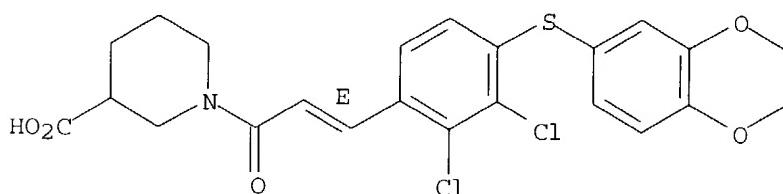
Double bond geometry as shown.



RN 280751-91-9 CAPLUS

CN 3-Piperidinecarboxylic acid, 1-[(2E)-3-[2,3-dichloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

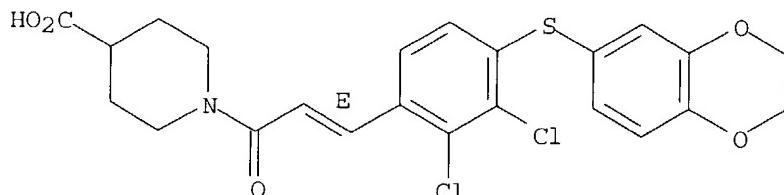
Double bond geometry as shown.



RN 280751-92-0 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[2,3-dichloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

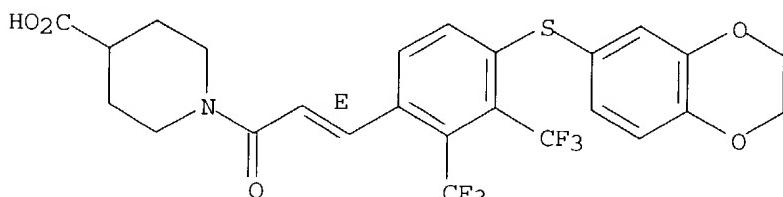
Double bond geometry as shown.



RN 280752-20-7 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-2,3-bis(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

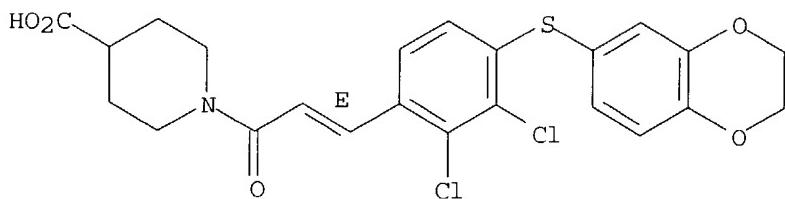


RN 280752-51-4 CAPLUS

CN 4-Piperidinecarboxylic acid, 1-[(2E)-3-[2,3-dichloro-4-[(2,3-dihydro-1,4-

benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-, sodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.

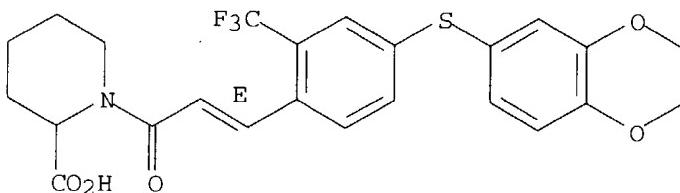


● Na

RN 280753-27-7 CAPLUS

CN 2-Piperidinecarboxylic acid, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-2-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

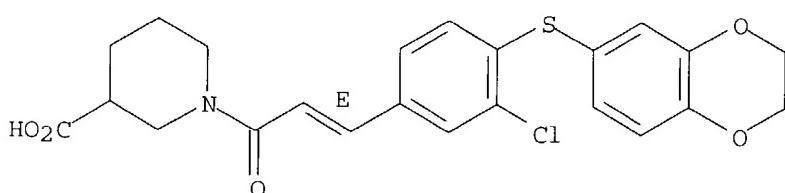
Double bond geometry as shown.



RN 280753-35-7 CAPLUS

CN 3-Piperidinecarboxylic acid, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-, sodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.

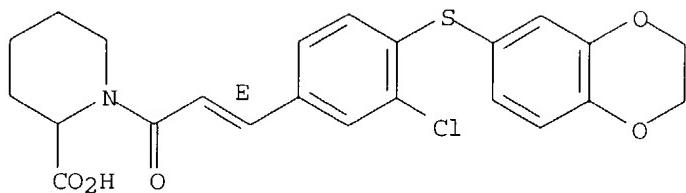


● Na

RN 280753-36-8 CAPLUS

CN 2-Piperidinecarboxylic acid, 1-[(2E)-3-[3-chloro-4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-, sodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.

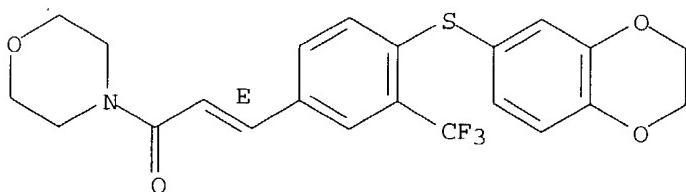


● Na

RN 301178-60-9 CAPLUS

CN Morpholine, 4-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]- (9CI) (CA INDEX NAME)

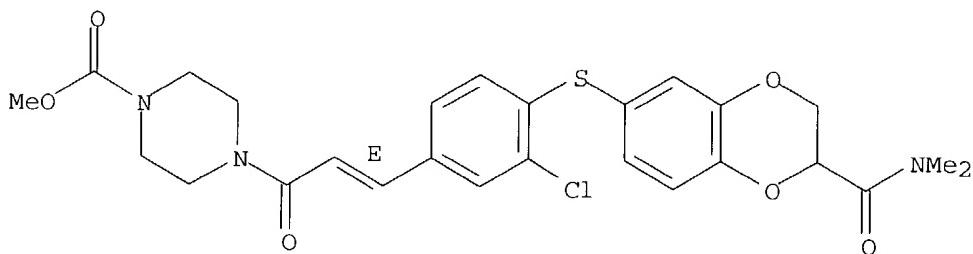
Double bond geometry as shown.



RN 301178-61-0 CAPLUS

CN 1-Piperazinecarboxylic acid, 4-[(2E)-3-[3-chloro-4-[(2-[(dimethylamino)carbonyl]-2,3-dihydro-1,4-benzodioxin-6-yl)thio]phenyl]-1-oxo-2-propenyl]-, methyl ester (9CI) (CA INDEX NAME)

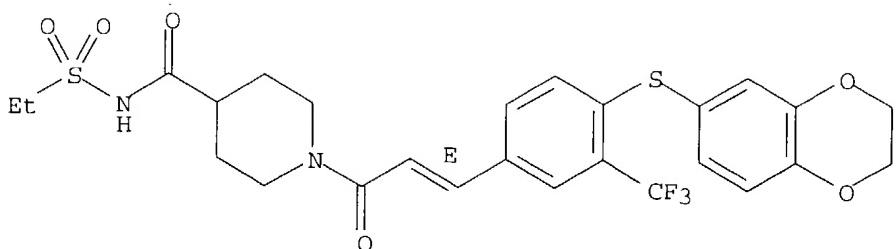
Double bond geometry as shown.



RN 301178-62-1 CAPLUS

CN 4-Piperidinecarboxamide, 1-[(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl]-N-(ethylsulfonyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT 301180-14-3

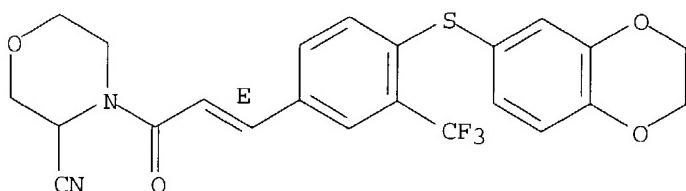
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of (phenylthio)cinnamides as cell adhesion inhibitors by coupling of thiophenols with halobenzaldehydes, conversion to cinnamic acids, amidation, and optional derivatization)

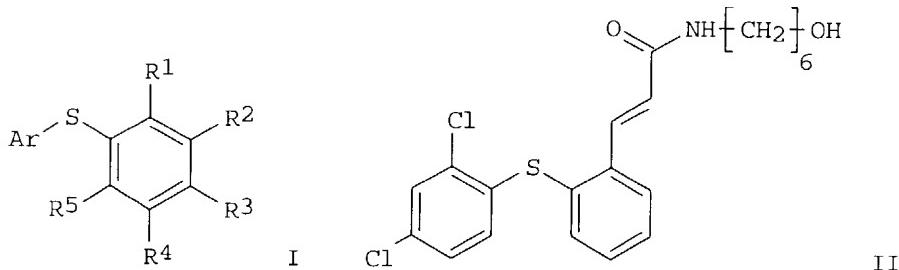
RN 301180-14-3 CAPLUS

CN 3-Morpholinecarbonitrile, 4-[{(2E)-3-[4-[(2,3-dihydro-1,4-benzodioxin-6-yl)thio]-3-(trifluoromethyl)phenyl]-1-oxo-2-propenyl}- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



GI



AB The title compds. (I) [wherein R1-R5 = independently H, halo, (halo)alkyl, alkoxy, cyano, NO₂, CHO, and least one of R1 or R3 is an (un)substituted cis- or trans-cinnamide; Ar = (un)substituted (hetero)aryl] were prepared as cell adhesion inhibitors for the treatment of inflammatory and immune diseases. Examples include syntheses for 443 invention compds. and data for 3 bioassays. For instance, a mixture of 2-[(2,4-dichlorophenyl)thio]benzaldehyde (preparation given), malonic acid, piperidine in anhydrous pyridine was heated at 110°C for 2 h and then treated with aqueous HCl to give trans-2-[(2,4-dichlorophenyl)thio]cinnamic acid (91%). Conversion to the acid chloride followed by amidation with

Welcome to STN International! Enter x:x

LOGINID: ssspta1611sxp

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?) : 2

* * * * * * * * * * * * * * * Welcome to STN International * * * * * * * * * * *

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NEWS 18 DEC 22 IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields
NEWS 19 DEC 22 ABI-INFORM now available on STN
NEWS 20 JAN 27 Source of Registration (SR) information in REGISTRY updated and searchable
NEWS 21 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/Cplus
NEWS 22 FEB 05 German (DE) application and patent publication number format changes

NEWS EXPRESS DECEMBER 28 CURRENT WINDOWS VERSION IS V7.00, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003

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* * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 17:02:08 ON 01 MAR 2004

=> file reg
COST IN U.S. DOLLARS
FULL ESTIMATED COST

| SINCE FILE ENTRY | TOTAL SESSION |
|------------------|---------------|
| 0.21 | 0.21 |

FILE 'REGISTRY' ENTERED AT 17:02:40 ON 01 MAR 2004
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STRUCTURE FILE UPDATES: 29 FEB 2004 HIGHEST RN 656221-41-9
DICTIONARY FILE UPDATES: 29 FEB 2004 HIGHEST RN 656221-41-9

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

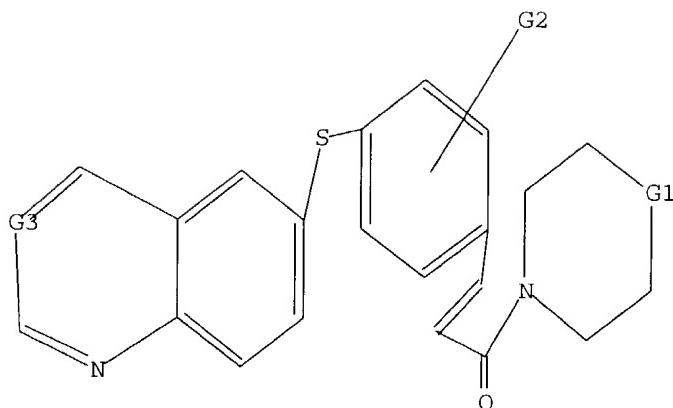
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>
Uploading c:\program files\stnexp\queries\09541795.18

L1 STRUCTURE uploaded

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 C,O,S,N,NH,CH₂,CH

G2 CF₃,X

G3 C,O,S,N,CH

Structure attributes must be viewed using STN Express query preparation.

```
=> s ll sss full
FULL SEARCH INITIATED 17:03:06 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 63 TO ITERATE

100.0% PROCESSED 63 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01
```

L2 0 SEA SSS FUL L1

| | | | |
|----------------------|--|------------|---------|
| => file marpat | | SINCE FILE | TOTAL |
| COST IN U.S. DOLLARS | | ENTRY | SESSION |
| FULL ESTIMATED COST | | 155.42 | 155.63 |

FILE 'MARPAT' ENTERED AT 17:03:12 ON 01 MAR 2004
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| | |
|---------------|-------------|
| US 6683216 | 27 JAN 2004 |
| DE 10317487 | 05 FEB 2004 |
| EP 1388584 | 11 FEB 2004 |
| JP 2004035475 | 05 FEB 2004 |
| WO 2004009876 | 29 JAN 2004 |

Structure search limits have been raised. See HELP SLIMIT for the new,
 higher limits.

09541795.18

Page 4

=> s ll sss full
FULL SEARCH INITIATED 17:03:18 FILE 'MARPAT'
FULL SCREEN SEARCH COMPLETED - 4267 TO ITERATE

100.0% PROCESSED 4267 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.11

L3 0 SEA SSS FUL L1

=> file caold
COST IN U.S. DOLLARS SINCE FILE TOTAL
FULL ESTIMATED COST ENTRY SESSION
109.42 265.05

FILE 'CAOLD' ENTERED AT 17:03:35 ON 01 MAR 2004
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FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

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This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> s ll sss full
REGISTRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

FULL SEARCH INITIATED 17:03:41 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 63 TO ITERATE

100.0% PROCESSED 63 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

L4 0 SEA SSS FUL L1

L5 0 L4

=> log y
COST IN U.S. DOLLARS SINCE FILE TOTAL
FULL ESTIMATED COST ENTRY SESSION
0.42 421.31

09541795.18

Page 5

STN INTERNATIONAL LOGOFF AT 17:03:48 ON 01 MAR 2004

Welcome to STN International! Enter x:x

LOGINID: ssspta1611sxp

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * * Welcome to STN International * * * * * * * * * * *

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NEWS 20 JAN 27 Source of Registration (SR) information in REGISTRY updated and searchable
NEWS 21 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/CAplus
NEWS 22 FEB 05 German (DE) application and patent publication number format changes

NEWS EXPRESS DECEMBER 28 CURRENT WINDOWS VERSION IS V7.00, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003

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Page 2

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* *

FILE 'HOME' ENTERED AT 17:06:11 ON 01 MAR 2004

=> file reg
COST IN U.S. DOLLARS
FULL ESTIMATED COST

| SINCE FILE ENTRY | TOTAL SESSION |
|------------------|---------------|
| 0.21 | 0.21 |

FILE 'REGISTRY' ENTERED AT 17:06:23 ON 01 MAR 2004
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STRUCTURE FILE UPDATES: 29 FEB 2004 HIGHEST RN 656221-41-9
DICTIONARY FILE UPDATES: 29 FEB 2004 HIGHEST RN 656221-41-9

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

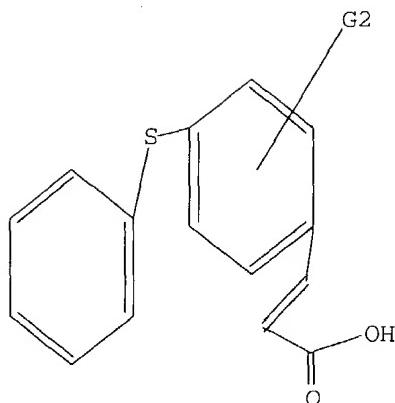
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>
Uploading c:\program files\stnexp\queries\09541795.19

L1 STRUCTURE uploaded

=> d 11
L1 HAS NO ANSWERS
L1 STR

G1 C,O,S,N,NH,CH₂,CHG2 CF₃,X

G3 C,O,S,N,CH

Structure attributes must be viewed using STN Express query preparation.

```
=> s l1 sss full
FULL SEARCH INITIATED 17:06:47 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 173 TO ITERATE
```

| | | |
|-----------------------|----------------|------------|
| 100.0% PROCESSED | 173 ITERATIONS | 18 ANSWERS |
| SEARCH TIME: 00.00.01 | | |

| | |
|----|-------------------|
| L2 | 18 SEA SSS FUL L1 |
|----|-------------------|

| | | |
|----------------------|------------|---------|
| => file marpat | SINCE FILE | TOTAL |
| COST IN U.S. DOLLARS | ENTRY | SESSION |
| FULL ESTIMATED COST | 155.42 | 155.63 |

FILE 'MARPAT' ENTERED AT 17:06:53 ON 01 MAR 2004
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FILE CONTENT: 1988-PRESENT (VOL 140 ISS 09) (20040227/ED)

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|----|------------|-------------|
| US | 6683216 | 27 JAN 2004 |
| DE | 10317487 | 05 FEB 2004 |
| EP | 1388584 | 11 FEB 2004 |
| JP | 2004035475 | 05 FEB 2004 |
| WO | 2004009876 | 29 JAN 2004 |

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

=>

=> S 11 SSS full
 FULL SEARCH INITIATED 17:07:04 FILE 'MARPAT'
 FULL SCREEN SEARCH COMPLETED - 2146 TO ITERATE

99.6% PROCESSED 2137 ITERATIONS 17 ANSWERS

100.0% PROCESSED 2146 ITERATIONS 17 ANSWERS
 SEARCH TIME: 00.00.18

L3 17 SEA SSS FUL L1

=> file caplus
 COST IN U.S. DOLLARS SINCE FILE TOTAL
 ENTRY SESSION
 FULL ESTIMATED COST 109.42 265.05

FILE 'CAPLUS' ENTERED AT 17:07:28 ON 01 MAR 2004
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FILE COVERS 1907 - 1 Mar 2004 VOL 140 ISS 10
 FILE LAST UPDATED: 29 Feb 2004 (20040229/ED)

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=> d his

(FILE 'HOME' ENTERED AT 17:06:11 ON 01 MAR 2004)

FILE 'REGISTRY' ENTERED AT 17:06:23 ON 01 MAR 2004

L1 STRUCTURE uploaded
 L2 18 S L1 SSS FULL

FILE 'MARPAT' ENTERED AT 17:06:53 ON 01 MAR 2004

L3 17 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 17:07:28 ON 01 MAR 2004

=> S 12
 L4 5 L2

=> S 13

Welcome to STN International! Enter x:x

LOGINID:ssspta1611sxp

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * *

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NEWS EXPRESS DECEMBER 28 CURRENT WINDOWS VERSION IS V7.00, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
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FILE 'REGISTRY' ENTERED AT 17:14:34 ON 01 MAR 2004
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STRUCTURE FILE UPDATES: 29 FEB 2004 HIGHEST RN 656221-41-9
DICTIONARY FILE UPDATES: 29 FEB 2004 HIGHEST RN 656221-41-9

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

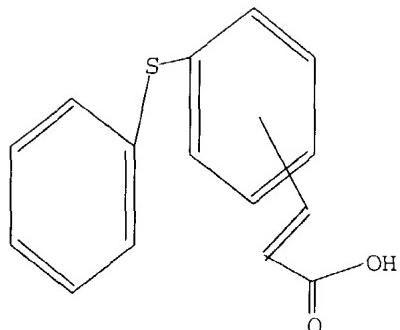
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>
Uploading c:\program files\stnexp\queries\09541795.20

L1 STRUCTURE UPLOADED

=> d 11
L1 HAS NO ANSWERS
L1 STR

G1 C,O,S,N,NH,CH₂,CHG2 CF₃,X

G3 C,O,S,N,CH

Structure attributes must be viewed using STN Express query preparation.

```
=> s l1 sss full
FULL SEARCH INITIATED 17:14:59 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 687 TO ITERATE
```

```
100.0% PROCESSED 687 ITERATIONS 86 ANSWERS
SEARCH TIME: 00.00.01
```

```
L2 86 SEA SSS FUL L1
```

| | | |
|----------------------|------------|---------|
| => file marpat | SINCE FILE | TOTAL |
| COST IN U.S. DOLLARS | ENTRY | SESSION |
| FULL ESTIMATED COST | 155.42 | 155.63 |

```
FILE 'MARPAT' ENTERED AT 17:15:06 ON 01 MAR 2004
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FILE CONTENT: 1988-PRESENT (VOL 140 ISS 09) (20040227/ED)

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| |
|---------------------------|
| US 6683216 27 JAN 2004 |
| DE 10317487 05 FEB 2004 |
| EP 1388584 11 FEB 2004 |
| JP 2004035475 05 FEB 2004 |
| WO 2004009876 29 JAN 2004 |

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

```
=> s l1 sss full
FULL SEARCH INITIATED 17:15:12 FILE 'MARPAT'
FULL SCREEN SEARCH COMPLETED - 3971 TO ITERATE
```

09541795.20

Page 4

| | | |
|-----------------------|---------------------------------|------------|
| 98.3% PROCESSED | 3902 ITERATIONS | 43 ANSWERS |
| 99.4% PROCESSED | 3946 ITERATIONS (1 INCOMPLETE) | 45 ANSWERS |
| 100.0% PROCESSED | 3971 ITERATIONS (1 INCOMPLETE) | 45 ANSWERS |
| SEARCH TIME: 00.00.43 | | |

L3 45 SEA SSS FUL L1

| | | | |
|----------------------|--|------------|---------|
| => file caold | | SINCE FILE | TOTAL |
| COST IN U.S. DOLLARS | | ENTRY | SESSION |
| FULL ESTIMATED COST | | 109.84 | 265.47 |

FILE 'CAOLD' ENTERED AT 17:16:02 ON 01 MAR 2004
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FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> s lll sss full
L4 0 LL1

=> s ll sss full
REGISTRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

FULL SEARCH INITIATED 17:16:27 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 687 TO ITERATE

| | | |
|------------------|----------------|------------|
| 100.0% PROCESSED | 687 ITERATIONS | 86 ANSWERS |
| SEARCH TIME: | 00.00.01 | |

L5 86 SEA SSS FUL L1

L6 1 L5

| | | | |
|----------------------|------------|---------|--|
| => file caplus | | | |
| COST IN U.S. DOLLARS | SINCE FILE | TOTAL | |
| FULL ESTIMATED COST | ENTRY | SESSION | |
| | 0.42 | 423.46 | |

FILE 'CAPLUS' ENTERED AT 17:16:39 ON 01 MAR 2004
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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d his

(FILE 'HOME' ENTERED AT 17:14:25 ON 01 MAR 2004)

FILE 'REGISTRY' ENTERED AT 17:14:34 ON 01 MAR 2004

L1 STRUCTURE UPLOADED
 L2 86 S L1 SSS FULL

FILE 'MARPAT' ENTERED AT 17:15:06 ON 01 MAR 2004

L3 45 S L1 SSS FULL

FILE 'CAOLD' ENTERED AT 17:16:02 ON 01 MAR 2004

L4 0 S LL1 SSS FULL
 S L1

FILE 'REGISTRY' ENTERED AT 17:16:27 ON 01 MAR 2004

L5 86 S L1 SSS FULL

FILE 'CAOLD' ENTERED AT 17:16:27 ON 01 MAR 2004

L6 1 S L5 SSS FULL

FILE 'CAPLUS' ENTERED AT 17:16:39 ON 01 MAR 2004

=> s 12
 L7 22 L2

=> s 13
 L8 45 L3

=> s 1 6

L9 2306 L 6

=> S 16
L10 22 L5

=> d his

(FILE 'HOME' ENTERED AT 17:14:25 ON 01 MAR 2004)

FILE 'REGISTRY' ENTERED AT 17:14:34 ON 01 MAR 2004

L1 STRUCTURE uploaded
L2 86 S L1 SSS FULLFILE 'MARPAT' ENTERED AT 17:15:06 ON 01 MAR 2004
L3 45 S L1 SSS FULLFILE 'CAOLD' ENTERED AT 17:16:02 ON 01 MAR 2004
L4 0 S LL1 SSS FULL
S L1FILE 'REGISTRY' ENTERED AT 17:16:27 ON 01 MAR 2004
L5 86 S L1 SSS FULLFILE 'CAOLD' ENTERED AT 17:16:27 ON 01 MAR 2004
L6 1 S L5 SSS FULLFILE 'CAPLUS' ENTERED AT 17:16:39 ON 01 MAR 2004
L7 22 S L2
L8 45 S L3
L9 2306 S L 6
L10 22 S L6

=> d 17 fbib hitstr abs total

L7 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:841743 CAPLUS
DN 140:93755
TI A concise synthesis of ortho-substituted aryl-acrylamides-potent activators of soluble guanylyl cyclase
AU Zhang, Henry Q.; Xia, Zhiren; Kolasa, Teodozyj; Dinges, Jurgen
CS Global Pharmaceutical Research and Development, Department of Medicinal Chemistry Technologies (R-4CP), Abbott Laboratories, Abbott Park, IL, 60064, USA
SO Tetrahedron Letters (2003), 44(48), 8661-8663
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science B.V.
DT Journal
LA English
IT 643763-52-4P, 3-[2-(Phenylthio)phenyl]-2-propenoic acid
643763-53-5P 643763-54-6P 643763-55-7P
643763-56-8P 643763-57-9P 643763-58-0P
643763-59-1P 643763-60-4P 643763-61-5P
643763-62-6P 643763-63-7P 643763-64-8P
643763-65-9P 643763-66-0P 643763-67-1P
643763-68-2P 643763-69-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of N-[(dimethylamino)alkyl][(thio)phenyl]propenamides and their

CO_2R_7 ; $\text{R}_7 = \text{H}$, lower alkyl] or their pharmaceutically acceptable salts, useful as inhibitors of leukotriene biosynthesis (no data), are claimed. These compds. are useful as anti-asthmatic, anti-allergic, antiinflammatory, and cytoprotective agents (no data).

L10 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1983:504990 CAPLUS

DN 99:104990

TI 2-Aminophenol derivatives

IN Miyamoto, Tsumoru; Mohri, Tetsuya; Shimoji, Katsuichi; Wakatsuka, Hirohisa; Itoh, Hiroyuki; Hayashi, Masaki; Hashimoto, Shinsuke

PA Ono Pharmaceutical Co., Ltd., Japan

SO Eur. Pat. Appl., 73 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | EP 81321 | A1 | 19830615 | EP 1982-306277 | 19821125 |
| | R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE | | | JP 1981-187730 | 19811125 |
| | JP 58090534 | A2 | 19830530 | JP 1981-187730 | 19811125 |

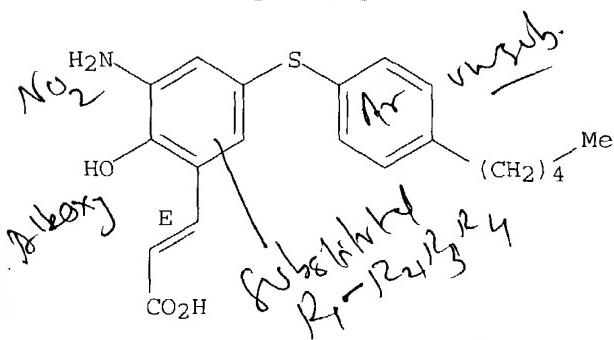
IT 86981-51-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

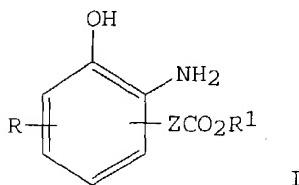
RN 86981-51-3 CAPLUS

CN 2-Propenoic acid, 3-[3-amino-2-hydroxy-5-[(4-pentylphenyl)thio]phenyl]-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



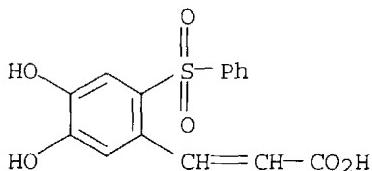
GI



AB The title compds. (I; $\text{R} = \text{H}$, alkyl, alkoxy, halo, 4- $\text{R}_2\text{C}_6\text{H}_4\text{S}$; $\text{R}_1 = \text{H}$,

alkyl, 4-PhC₆H₄CH₂; R₂ = H, alkyl; Z = alkylene, alkenylene) were prepared. Thus, (E)-3,2-R₃(HO)C₆H₃CH:CHCO₂R₄ (II; R₃ = R₄ = H) was nitrated and esterified to give II (R₃ = NO₂, R₄ = Et). This was reduced with NaSH to give II.HCl (R₃ = NH₂, R₄ = Et) (III). At 0.5 μM and 1μM, resp., III gave 50% inhibition of 5-lipoxygenase and cyclooxygenase of guinea pig polymorphonuclear leukocytes.

L10 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1983:59590 CAPLUS
 DN 98:59590
 TI Use of thin-layer chromatography for determination of polyhydric phenols and quinones in wastewaters and reservoirs
 AU Timofeeva, S. S.
 CS Irkutsk. Gos. Univ., Irkutsk, USSR
 SO Deposited Doc. (1981), VINITI 4990-81, 23 pp. Avail.: VINITI
 DT Report
 LA Russian
 IT 58058-71-2
 RL: ANT (Analyte); ANST (Analytical study)
 (determination of, in water and wastewater, thin-layer chromatog. in)
 RN 58058-71-2 CAPLUS
 CN 2-Propenoic acid, 3-[4,5-dihydroxy-2-(phenylsulfonyl)phenyl]- (9CI) (CA INDEX NAME)



AB Monohydric and polyhydric phenols and their phenylsulfonyl derivs. were determined by thin-layer chromatog. with silica gel, Al₂O₃, and 2% HCl-treated Al₂O₃ as adsorbents. The use of spot area measurement on the chromatogram is recommended for the determination of small (<20 μg) amts. The coeffs. of variation in determining the phenylsulfonyl derivs. of phenols by elution with subsequent spectrophotometry were 3-11%.

L10 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1981:479105 CAPLUS
 DN 95:79105
 TI Promotion of quinone formation from exogenous polyphenols in leaf homogenates of sunflower grown under conditions of a boron deficiency
 AU Shkolnik, M. Ya.; Krupnikova, T. A.; Timofeeva, S. S.; Stom, D. I.
 CS V. L. Komarov Bot. Inst., Leningrad, USSR
 SO Fiziologiya Rastenii (Moscow) (1981), 28(3), 541-6
 CODEN: FZRSBV; ISSN: 0015-3303
 DT Journal
 LA Russian
 IT 58058-71-2
 RL: FORM (Formation, nonpreparative)
 (formation of, in sunflower leaf homogenates from exogenous polyphenols, boron deficiency effect on)
 RN 58058-71-2 CAPLUS
 CN 2-Propenoic acid, 3-[4,5-dihydroxy-2-(phenylsulfonyl)phenyl]- (9CI) (CA INDEX NAME)